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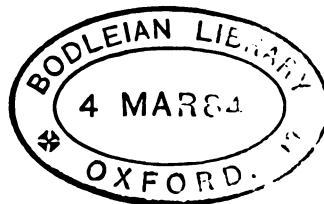
*A POPULAR MONTHLY JOURNAL.*

EDITED BY  
A PHYSICIAN.

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VOLS. I. & II.—1881 & 1882.

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LONDON:  
W. H. ALLEN & CO., 13 WATERLOO PLACE, PALL MALL. S.W.  
PUBLISHERS TO THE INDIA OFFICE.

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1882.

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LONDON:  
PRINTED BY W. H. ALLEN AND CO., 13 WATERLOO PLACE.

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The Journal will be supplied post free, each month, for one year, on receipt of P.O.O. for 3s. 6d., made payable to the Publishers, Messrs. W. H. Allen & Co., 13, Waterloo Place, London, S.W., at the Charles Street, Haymarket, Post Office.

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## THE FAMILY DOCTOR.

## ANNOUNCEMENT.

THE proprietors of the *Family Doctor*, in issuing this their first number, desire to draw the attention of the public to a few facts in connection with the undertaking. In the first place it must be clearly understood, that while every endeavour will be made to make the journal as useful and instructive as possible, the greatest care will be taken to keep from its pages anything objectionable, whether articles, news, or correspondence. The object of the periodical is to disseminate amongst the people better and clearer ideas about health, diet, and hygiene, &c., and with this object in view, the editors will be glad to receive for publication any articles or correspondence which may be sent to their publishing office. Any medical news of interest to the public also will be gladly received, such as meetings of medical societies, for the discussion of matters in connection with the prevention of disease, appointments of Medical Officers of Health, Hospital Physicians and Surgeons, Poor Law Medical Officers, Coroners, and Public Vaccinators, and University and College meetings, or regulations with regard to Medical Education. A column will be reserved for correspondence, and it is requested that such communications be always written legibly, and on one side of the sheet only, and accompanied by the name and address of the author, which need not necessarily be published. Such a journal, if rightly used, cannot fail to prove an inestimable boon to the public, and must, if carefully studied, greatly improve the minds and sanitary condition of the people, who will find in its pages rules for the prevention of disease, and the preservation of health, besides many other useful hints. The articles and essays will be written so that they may be easily read and understood by all, unnecessary technicalities being avoided, and plain English used as much as possible. The editors confidently hope that their

endeavours to make the journal a valuable source of information will be met by a favourable response on the part of the public.

## SKIN AFFECTIONS.\*

By M.D., F.R.C.S.

Of all the diseases to which the human frame is heir, none require greater skill and promptness in treatment than diseases of the skin, and none, if unskillfully treated, leave such fearful disfigurements. Add to this that they are notoriously difficult of cure, and the thought will at once strike us that it would indeed be a boon to society were those principles better known and understood by which such dire afflictions might be avoided or prevented. That many of these complaints may be prevented by exercise of a little care and attention to sanitary matters, there can be no doubt, and it will be my object in this essay to point out to my readers the proper mode to go about this. In treating disease, no matter of what part of the body, the first aim of the physician, after satisfying himself as to the exact nature of the malady, is to search for an adequate cause for the effect produced, and diseases of the skin are no exception to this rule. It is obvious that the treatment will be rendered considerably more easy if the cause be properly ascertained, and in endeavouring to ascertain the cause of any disease of the skin the complaining organ should be examined with reference to animal, vegetable, mineral, aqueous and aerial poisons, and to heat, cold, ingesta, functional abuse, traumatism, the heredities, and any other source of disease known, or the exact cause may be overlooked, and the treatment consequently of no avail. This is most necessary in the treatment of skin diseases, for so much depends upon the physician having an exact knowledge of the cause, and, therefore, it should be the desire of the patient to carefully and particularly acquaint his medical adviser of all the circumstances surrounding his mode of living, occupation, &c. It sometimes happens that by removing the cause of an ugly-looking skin eruption the disease disappears as if by magic; but it is not always easy to come at the exact cause, and, therefore such happy terminations of an exceedingly disagreeable malady are unfortunately not very common. Let us look at some of the common causes of skin eruptions, and see how far it lies in the power of any of us to avoid them.

I know of no more frequent cause of skin disease than what is called the "Strumous Diathesis," by which we mean a peculiar condition of the system, which may be described briefly as a disease of malnutrition, leading generally to the deposit of tuberculous matter, affecting all parts of the system,

\* Written specially for *The Family Doctor*.



in different situations of which it bears distinct names, as consumption, when situated in the lungs; scrofula, when situated in the bones and glands; marasmus or consumption of the bowels, when the glands of the abdomen are particularly affected, tubercular or scrofulous meningitis, when the brain and its membranes are principally affected, &c. \* It is found in all races and climates, and no age is entirely exempt from it; it is both hereditary and acquirable, and may remain latent in the system of an individual, or in a family, for an indefinite period of time, to be, perhaps, brought into active existence by some disease or injury, or by the performance of some natural function, as dentition, and the like. It is, undoubtedly, the most prolific of all the sources of human death, not only itself killing, but often determining the course and termination of other diseases. † It carries off seventy thousand persons annually in Great Britain, in a population of thirty-six millions; and, according to Beer,‡ nine-tenths of the ophthalmia in Vienna in children is strumous. In Breslau it is greater, according to Benedict, the proportion being ninety-five per cent. Dr. Gregory, of Edinburgh, says that there is not a single family in Scotland free from scrofula; and Dr. John Thompson says "It is rare to meet with an individual who has not, at some period of his life, experienced diseases in some shape or another belonging to one of the several forms of scrofula." We see, then, that this peculiar condition of the system is very common indeed, and yet it is often most difficult to discover, owing to the extraordinary aversion most people have to being considered unhealthy, or to being told they have "the scrofula," which condition of the body they consider vulgar and disgusting. It frequently happens that patients deceive their doctors when interrogated on this point, and suffer untold misery in consequence. Such foolishness and shortsightedness is to be regretted much, for, as I have pointed out, it is almost impossible to successfully treat a complaint without knowing all particulars concerning the bodily peculiarities or idiosyncrasy of the person afflicted. As people become more enlightened with regard to such matters there will be less desire on their part to hide such important facts from their medical attendants, and the result will be that not only will the patient derive more benefit from the more scientific method of treating cause rather than effect, but the medical attendant will be the better able to draw useful and valuable inferences from the results of his treatment, which will build up for him a greater store of sound experience wherewith to treat other sufferers than

he could otherwise have obtained. Thus the value will be felt by physician and patients alike.

The strumous diathesis being, then, a very frequent cause of skin disease, how may we prevent such a state from manifesting itself? It is not in our power, unfortunately, to eradicate this cause, but it is quite within our power to do much towards avoiding any disagreeable effects from it. This is to be effected by attention to the general laws of health, such as cleanliness, regularity of living, &c. People who suffer from struma should live in healthy places, avoiding crowded localities or the neighbourhood of bad gases from works, or emanations from decomposing animal or vegetable matter. A residence on the slope of a hill, sheltered pretty well from the north and east, should be preferred, and care should be taken to select a locality where the rain-fall is not very excessive. Exercise should be taken regularly, but short of causing marked fatigue; and baths, tepid in winter and cold in summer, should be also regularly taken. The diet should be plain and nutritious; fancy food should be eschewed and meals taken at regular times, and never at night. "Early to bed and early to rise" is a maxim not to be forgotten. By careful attention to such matters as these, such dreadful diseases as lupus, lepra, fish skin, hard skin, acne, eczema, and others, may be avoided. Of course it must not be forgotten that there are various degrees of intensity in the strumous diathesis, and whilst strict attention to the above rules will suffice to prevent the appearance of any manifestation on the skin, as a result of a mild form of struma, it is sometimes necessary, in severer forms, to have recourse to various medicines, such as cod-liver-oil, iodide of iron, the hypophosphites, &c., but these should never be taken without first of all seeking the advice of a regular physician.\* The next most common cause of skin disease I believe to be vitiated atmosphere, which exists in the form of marsh miasm, or in badly ventilated workshops, and the houses of the poor. Many physicians maintain that this is, of all causes of skin disease, the most frequent. Dr. Yandell, of Louisville, goes so far as to say that *all* skin diseases which are not the result of strumous diathesis are caused by vitiated atmosphere. This view I do not at all subscribe to, although I think that malarial influence (by which term I mean the influence of vitiated air) is a most important and frequent factor in the development of skin disease. Dr. Yandell, in treating his subject, reminds us that malaria, or bad air, may arise independently of swamps, marshes, lagunæ, or ponds, and that in the rich oasis of the Sahara Desert, and on the sides of the Rocky Mountains, this

\* Dr. L. P. Yandell, jun., on *Malaria and Struma*.

† Sir James Y. Simpson, Bart.

‡ Lawrence on *The Eye*.

\* I use the term physician, as signifying a medical practitioner.

mysterious poison exerts its baleful influence. \*Dr. Dickson, speaking of malarial fevers, says:—"We find them on the cold fens of Holland and Lincolnshire, as well as on the rice-fields of the sunny South; on the smiling hills which overlook the Hudson, as well as amongst the swamps and marshes of Florida; on the lime-rock of Kentucky and Tennessee, the clay of Alabama and South Carolina, the sandy barrens of her northern sister, and the granite and sienite of the Empire State; on the volcanic tufa of Civita Castellano, and the Roman Campagna, and in the very crater and on the sides of extinct volcanoes, as at Balsina and Milo." Hertz,† quoting from Humboldt, after stating that these fevers may originate on a dry soil and in a mountainous region, says:—"On the Tuscan Apennines, at a height of 1,100 feet; on the Pyrenees, at 5,000 feet; on the Island of Ceylon, at 6,500; and in Peru, at an elevation of 10,000 to 11,000 feet, malaria is found." The same author states that malaria may originate in mild winters, although it most frequently develops itself in summer, and that an average summer temperature of fifty-nine to fifty-nine and nine-tenths Fahrenheit, which is sufficient to induce vegetable decomposition, produces malarial fever. Dr. Yandell, again, reminds his readers that it is perfectly well established that malaria may spring from meadows, from the clearing of forests, from reservoirs, great lakes, mill-ponds, sluggish streams, bilge-water, and the water carried on board ships for drinking purposes, and that the turning up of the soil, as in ploughing and ditching, and in the construction of fortifications, is a well-known cause of malaria. Dr. Junius Hardwicke, of Rotherham, says:—"It is well known that fens and moors exhale malaria to a fearful extent, and that unless there be ample vegetation in their immediate vicinity, or on their surface, to decompose it, the miasm is conveyed by the winds to the dwellings and villages in their neighbourhood, amongst the inhabitants of which it produces intermittent, remittent, or continued fever, according to the latitude in which it occurs. Of the first result we have abundant evidence in the fens of Lincolnshire and Essex. Swampy forests, if covered with vegetation, and peat-bogs, do not produce fever, in consequence of the malarious emanations being either absorbed by the leaves of the trees, or decomposed or destroyed by the oxygen exhaled by the foliage, by vegetation, and by the sphagnum palustre with which their surfaces are covered, first converted into ozone, or by both combined." Clearly, then, we must admit that malaria is remarkably prevalent in most parts of the world,

and no doubt many diseases are due to its influence, which have hitherto had ascribed to them causes very different.

That many skin affections are directly due to malarial influence I have no doubt at all, my experience in both hospital and private practice leading me to this conclusion. The pale, enlarged, flabby, and teeth-indented tongue, the anæmic or muddy complexion, and the distinct malarial periodicity, noticed so frequently in patients suffering from skin disease, strongly points to the conviction that this is no mere theory, but a well-ascertained reality. It is true that periodicity is not bound to be in all cases a symptom of malarial poisoning, for, as Dr. Yandell points out, we may have scrofulous periodicity as well as periodicity in diseases neither malarial nor scrofulous, and, moreover, periodicity is a habit, not alone of disease, but of health. Still a careful and minute inquiry enables the physician to detect the malarial element in a great number of cases, and this without necessarily discovering any rise in the temperature. How are we to secure pure air and avoid that which is vitiated? By attending to the foregoing remarks it will not be a difficult task to become acquainted with the localities most likely to possess vitiated atmosphere, and to avoid them. Fresh air, as opposed to the close air of towns and rooms, and the atmosphere of the various works, manufactories, &c., produces often a powerful and rapid effect on the human system, its tonic influence on health and nutrition, in fact on the very formation of the blood itself, are facts which belong to common every-day experience. Dr. Julius Braun, spa-physician at Rehme-Oeynhausen,\* says that large cities, closely-built and badly-ventilated dwellings, and crowded work-rooms, are the breeding-places of chronic sickness; the country, the sea-shore, and the mountains, are the native homes of robust beings. In explaining the influence of good and bad air, we are almost exclusively referred to the somewhat vague idea of greater or lesser purity, that is, to the existence or absence of pernicious admixtures, whilst the relative proportion of the peculiar constituents of the atmosphere, of the oxygen and the nitrogen, is subject only to very trifling differences in towns, country, sea-shore, and mountains, and even in various geographical latitudes. We should not forget that only a certain quantity of oxygen will be taken into the blood in a given time. A much more important question than whether the constituents of the atmosphere are relatively proportioned is whether the atmosphere itself is free from admixtures which are quite foreign to its nature. Air should be free from particles of organic and inorganic dust. This it is that renders the atmosphere of confined and

\* Dickson's *Elements of Medicine*.

† Ziemssen's *Cyclopædia*.

‡ Essay on "Effects of Vegetation on Health," in *The Specialist* No. xi., 1881, p. 151.

\* Dr. Hermann Weber, on *The Curative Effects of Baths and Waters*.

ill-ventilated houses and shops so impure. The perniciousness of the air, as proved by experience, increases with the closeness of the dwelling in proportion to the number of the occupants, and in the same proportion admixture of organic dust increases, which influences combined become most strikingly apparent when dampness of the walls is added to the limited quantity of space. It is this that gives rise to a suspicion that miasma may be spread by means of fine particles of dust. Then, again, air is often rendered impure by the presence of gaseous substances arising from decomposing organic bodies, carburetted hydrogen, phosphoretted hydrogen, sulphuretted hydrogen, ammonia, &c. The special character of the injurious influence of these factors is unknown to us, as are also their different relations to the production of disease, but the fact is indisputable that a prolonged sojourn in air tainted with them produces a feeling of indisposition, resulting in illness. This is explained partly by the impeded process of respiration and partly by direct poisoning of the blood. Undoubtedly an atmosphere impregnated with such gases retains specific miasmata, and these produce in human bodies exposed to their influence various phenomena which we term malarial fevers or affections, of which some of the most common manifest themselves in hideous forms on the skin of the persons affected, and are known by the names acne, nettle-rash, erythema or rose-blush, eczema or catarrh of the skin, herpes or tetter, lichen, prurigo, impetigo or pustular eczema, ecthyma or pustulosis, pityriasis or dandruff, and erysipelas. These diseases are mostly to be met with in our large cities and manufacturing centres, where the houses of the poor are crowded together with little or no chance of proper ventilation, and often with defective drainage, where we should naturally expect to find miasmatic poisoning, resulting either in one or other of the affections just enumerated or in an attack of diarrhoea or typhoid fever. "Prevention is better than cure" is a motto that should be remembered well by those who are predisposed to skin eruptions, and by avoiding localities in which the atmosphere is suspected to be not particularly pure, the diseases of the skin which are brought about by vitiated atmosphere will be also avoided. It is of course not always convenient or practicable to remove out of a malarious district, and the use of such anti-periodic or anti-malarial remedies as quinine, arsenic, iron, and the mineral acids is then indicated. These remedies should only be employed, however, under the direct supervision of a physician, or the greatest mischief may be innocently effected. In speaking of malarial poison as a cause of skin disease, it must be borne in mind that it is not necessarily the exciting cause in all cases, but that it may be, and in fact frequently is, the predisposing cause, the exciting cause

in such cases being a traumatism, an indiscretion in diet, a wetting, extraordinary heat or cold, a sudden change of temperature or clothing, loss of sleep, the performance of the natural functions, such as dentition and the like, or some other additional agent.

(To be continued.)

## FOOD AND HEALTH.\*

By J. A. GRANT, M.D., M.R.C.P.

TO-DAY it has become a recognised principle that the great social problem is the sanitary condition of our people. It affects alike both poor and rich, but more particularly the former, who are unable to contend so vigorously against the pernicious influences. Statistical facts have demonstrated beyond a doubt that more people die daily from the neglect of proper sanitary precautions than from all other forms of mortality combined. The most prolific sources of disease—at least, those which most directly impair health and shorten life—are foul air, impure water, adulterated food and drink in the various forms which are catered up for the digestive capacity of a growing generation still eager to perpetuate the principle that ordinary business matters cannot be finally accomplished without the spirit ratification in some one of the shapes so popular in almost every country at the present day. No subject calls for more vigorous action at present than that of "Sanitary Reform," which would contribute, beyond our most sanguine anticipations, towards the improvement of our sanitary condition, and thus promote, in the most tangible form, the comfort and happiness of our people. The time has now arrived when the public men interested in the welfare of this Dominion must take an active part in the promotion of sanitary science. The "Adulterations Act," introduced by Government, has already accomplished some good in a very moderate way, but greater activity is requisite in order to fully appreciate the importance of the various adulterations of food and drink so intimately associated with the future of our Dominion. In Great Britain, Europe, and the neighbouring Republic, there is at present considerable effort being made in this department of sanitary science, and the various workers in this prolific field of observation have accomplished much, and are now bringing about a more healthy recognition of the important issues which spring from this momentous subject.

The extent of food adulteration, in fact, is only now being actively looked into, in order, as far as possible, to obtain a more perfect idea of poisonous influences daily and hourly at work in bringing about the increased death-rate of our population. The

\* Canada Lancet.

forms of adulteration are varied, and introduced with a considerable degree of skill, in order to evade the law and contribute to personal gain, even with the prospect of shortening life. The addition of substances of inferior value, for the sake of bulk and weight, is a common practice, and even not more so than the addition of colouring matters of various kinds, to improve appearances, if possible, and conceal other popular forms of adulteration. The preparations of lead, copper, mercury and arsenic, used for colouring purposes, possess highly poisonous properties, and thus impart very deleterious influences. A common form of adulteration is the addition of substances in order to impart flavour, pungency, and attractive smell—common means of deluding and deceiving the public in matters of everyday life. Who has not heard of chicory powder in coffee or cocoa; of woody fibre and sawdust of different kinds in spices, and various drugs in powder, added neatly by spice and drug grinders; of copper in pickles and bottled fruits; of bole Armenian and Venetian red in potted meats and fish? Such adulterations could not possibly be practised by the retail tradesmen, being rather the outcome of special machinery, used in the large centres of trade and commerce. It is quite evident that the sellers of adulterated food are in a position to increase their profits in a very large degree. From these few examples in the line of current impurity, which is more extensive than generally supposed, it is quite evident the question of the adulteration of food is one which vitally affects the interests of the honest and most respectable of the trading community, in whose hands is now placed the important duty of staying, as far as possible, the nefarious system of adulteration which saps human vitality and throws a slur upon many of our best merchant princes, who are the very essence of commercial integrity.

Is the present machinery in operation for the purpose of checking adulteration, which comes under the head of Excise, active and energetic? How many are there at present carrying on the requisite investigations as to food adulteration? This suggestion is not thrown out with any hostile feeling, but merely in order to ascertain the efficiency of the Excise force in this particular branch, which guards the best interests of our people. The present Government has the credit of having taken the initiative in this matter, to whom much credit is due, even for the progress so far made in a most praiseworthy path of public duty. We require to rely more on science, upon the resources of chemistry and the microscope, than upon feeble Excise inspectors, who, although active and willing, can only convey such information, in many instances, as falls under ordinary observation. The health of the country, and the revenue of the country depend largely upon the proper discharge of the duties connected with the application

of science to the question of food adulteration, and, under such circumstances, we feel assured the interests of the public will be guarded in a manner becoming the scientific advancement of the age in which we live. One of the first questions one would very naturally ask is: Are we making satisfactory progress in our sanitary measures; what is our death-rate in the Province of Ontario, or in the whole Dominion? Such are the inquiries made by those adopting Canada as a home and future residence; for those who may migrate from the Mother Country. In England, before the Restoration, Macaulay has depicted it as "a time when men died faster in the lanes of our towns than they now die on the coast of Guiana." The rate of mortality in London from 1660 to 1679 was fully 80 in 1,000, and in 1871 it became reduced to 22.6 in the 1,000. Thus we observe how, under proper sanitary regulations, the death-rate in England was greatly reduced through the introduction of the requisite precautions. In Ontario, at present, about 80 die per day of various causes, and it has been estimated that fully one-third of the deaths are of diseases which might be prevented by thorough sanitary measures. The aim of sanitary science is to prevent disease, preserve health and prolong life; in fact, to guard the best interests of our people, so as to efficiently discharge their various duties for personal comfort and State advancement. Thus a private as well as a public hygiene is considered in the widest acceptance of the term. This science, like that of medicine, is pre-eminently one of observation, and in both, disease is the study, but in different ways. The physician endeavours to cure an ague, but the health officer more particularly inquires as to what will prevent an ague. While the scientific physician may extend his observation to the cause as well as the cure of disease, the health officer makes it his especial duty to look quietly and carefully into the various causes of disease, and thus co-operate with his brother practitioner in promoting health. The laws of health like the laws of nature, take a well-defined course or direction. A careful submission to these laws promotes health and longevity—whilst death and disease result from the converse, and the marvel is, how many people do live with the tax placed on their system. What are some of the facts to be deduced from the fast of Tanner? That the human system is far more over-strained than is necessary by the extra amount of food taken daily, and that too little attention is paid to the important part pure and unadulterated water plays in the human economy. It is estimated that of every body which weighs 185 lbs. there are fully 111 lbs. of water, thus, at a glance, we can observe the proportionate power and effect of water in maintaining life under such trying circumstances. The curative power of moderate starving in some forms of disease is a well

attested fact, and if many of the gorging and fashionable processes were only more carefully guarded, life would be longer, health more vigorous, intellectual power more acute, and the accumulation of adipose tissue not so frequently interfere with ordinary locomotion. The closer we consider public health the simpler becomes the problem: Purity of air, water, food, and clothing, all of which may be embraced in a single word—"cleanliness." Life is a fortress we know little of, and why throw difficulties in the path? What concerns the individual, concerns the State, and every individual should know something of those grand vital sanitary principles so closely connected with the cheer and happiness of the home and the fireside. Lord Beaconsfield in his celebrated Manchester speech, as Prime Minister, remarked, "I think public attention ought to be concentrated on sanitary legislation. I cannot impress upon you too strongly my conviction of the importance of the legislature and society uniting together in favour of these important results. After all, the first consideration of a minister should be the health of the people." Do not such facts apply directly to our public men—from whom we expect activity and marked energy in bringing about a central department of health, such as is established in many countries at the present day? This will be evidence of progress in the right direction, and, although laws may conflict in the local and general government of our country, still we feel assured action will soon be taken and such as will tend to prolong life, promote comfort and happiness, by demonstrating in a tangible form how the sacrifice of preventible deaths may be avoided. Such is the basis upon which we expect to operate, and thus root out the causes which add so largely to our annual death-rate. This is science turned to good account, and surely the lives of our people are equally important with those worldly treasures of little account once man has passed beyond the sphere of earthly cares.

#### BATHING.\*

THE remarks made concerning the too frequent changing of the under-garments by delicate patients, will apply with equal force to too frequent bathing of the body, by the same class of individuals. Ab-lution should not be performed oftener than the surface of the body requires cleansing, which, in all probability, will not be oftener than once in one or two weeks in warm weather, and once in four or eight weeks in cold weather, or it may not be required at all during cold weather. As patients regain strength and flesh, they will observe that the oil on the skin will increase in quantity, and that

\* Dr. Rumbold's *Hygiene of Catarrh*.

with this increase extraneous matter will accumulate on the surface faster than when they were in a weaker condition, consequently they will require to be washed more frequently; nevertheless, the bathing should be postponed as long as consistent with cleanliness, until full and healthful vigour is enjoyed.

The temperature of the bath and the air in the air bath-room should be such as is pleasant to the bather. It is not uncommon to hear the opinion expressed that general bathing in cold water acts as a preventive of cold. This is far from being true, even in a majority of instances. Those who are the most ardent advocates of this plan of preventing colds are usually individuals who are themselves in full vigour of health, and who are possessed of a strong constitution. In the case of a fat, healthy individual, cool-water bathing may not take off too much oil from the body, as there is a superabundance of this non-conductor of heat secreted by his skin. It is principally on account of this superabundance that he requires frequent washings. At each of these bathings his body will react quickly and perfectly, but as respects those that are thin in flesh and in a weakly condition, the case is quite different. They do not possess the strength necessary to overcome the sedative effects of a bath at a low temperature, nor can they lose the oil from the surface of the body without injury.

The Turkish and Russian baths are beneficial to patients in full flesh, but patients who are in delicate health *should not* take either of these baths; they are too debilitating, and rob the skin of oil, thus rendering them more susceptible to the bad effects of sudden changes in temperature. The frequency with which either of these baths may be repeated will depend much upon the vigour of the patient; one, or at most two baths a week will be all that a catarrhal patient should take, even if he is in vigorous health. After eight or ten baths are taken, then one every ten or fourteen days will be sufficiently frequent. Great care should be taken to allow the body to cool off before leaving the cooling-room. I have known of several instances in which a single Turkish bath paved the way for a cold so severe that it threatened the life of the bather, on account of the stay in the cooling-room being of short duration. The concurrent opinion of a large majority of my patients who have frequented these baths is that the bather who is liable to take cold easily should not venture out-doors before he has remained full one and a half hours in the cooling-room.

Since the fall of 1876, I have recommended those of my patients whom I thought were liable to take cold after these hot baths to apply, just before dressing themselves, a small quantity of vaseline to the surface of the whole body. Most of them liked the effect of it; a few, who weighed almost

approaching 200 lbs., did not notice any good effect from its application, while those of them who were rather sparely built were sure that it had the effect of preventing them from taking cold, and that it seemed to prolong the pleasant and beneficial effects of the hot bath.

**MILK AS A CARRIER OF DISEASE.**—The important discovery that milk may be a carrier of disease demands the attention of all people, and especially those connected with Boards of Health. The following is taken from an editorial on this subject in the *N. Y. Medical News*:—

"We are led to call public attention to this subject at the present time by the fact that several recent English medical journals come to us bearing accounts of new epidemics, attributable to the infection of milk tainted with the poisons of typhoid fever, scarlatina, or diphtheria. Thus, for example, at Southport, one case of typhoid after another was announced to the municipal authorities, until in about two weeks a total of twenty-eight was reached. Such a rapidly invading epidemic demanded of course energetic measures for its repression, and a careful inspection of the various dwellings in which the victims had been attacked was undertaken. The health officers found, however, to their surprise, that with two trifling exceptions these premises were all in good sanitary condition; but further investigation disclosed the fact that in every instance milk had been served to the families in which typhoid fever had occurred from a particular dairy some miles distant, and upon the grounds of this dairyman was discovered a well horribly polluted with soakage from a filthy cess-pit near it. In the words of the chairman, 'chemical analysis showed that it was nothing but liquid sewage and calculated to spread disease wherever its influence extended,' and the proof that this foul infecting material had been accomplishing the work for which it was so well 'calculated,' is met with in the circumstance that on stopping the milk-supply from this dairy the epidemic ceased to spread, although not before two of the cases previously attacked had resulted fatally.

"The infectious material, when scarlatina and diphtheria are conveyed by milk, probably falls into the fluid whilst standing in open vessels, or is rubbed off, attached to the epithelial cells of the epidermis during the process of milking in such a way as to gain access to the milk. In an example of this kind, recently the subject of judicial action in England, a medical officer of health stated before the magistrates that seven cases of diphtheria had occurred in his own practice, and that during inquiries made for the purpose of tracing the origin of the disease, he had heard of other instances, all of which, as well as his own, had been supplied with milk from the same establishment. Acting upon this hint he proceeded

to examine the dairy from which the milk was obtained, and found that a child was dying from malignant diphtheria on the premises, so that this case was, it seemed highly probable, the starting-point of the whole outbreak of the malady.

"Still another fresh illustration of the dangers we are now considering is reported from the town of Dundee in Scotland, where an extended epidemic of scarlet fever is stated to have arisen among families supplied from two particular dairies. On careful investigation scarlatina was found to have been actually prevailing in the families of the dairymen in charge of these establishments before and at the time the other cases made their appearance."

**BAD EFFECTS OF TOBACCO ON THE YOUNG.**—Certain English medical journals have been giving a partial indorsement of the weed, protesting that, on the whole, it is rather a boon than a bane to mankind. An exception is uniformly made, however, to its use by the young, and in this connection the case of the human organism against tobacco is made out by Dr. Richardson and others, to be something as follows: In smoking tobacco we take in carbonic acid and carbonic oxide, several ammonias, and an oily substance, which is crude nicotine. In this crude nicotine are nicotine proper, a volatile empyreumatic substance and a bitter extract. The ammonias and the nicotine especially, are the substances which so sadly poison the system, and they act in numerous directions.

"1. The ammonias, entering the blood, make it too alkaline and fluid, thus interfering with its proper nutritive activity. 2. The stomach is debilitated and dyspepsia induced by the general influence of the drug. 3. The throat is made dry and red, the tonsils enlarged, and the morbid condition known as "smoker's sore throat" results. 4. The innervation of the heart is disturbed, its action being weak, irregular and intermittent: palpitation, præcordial pains, faintness and vertigo are the consequence, forming the well recognised symptoms of the "tobacco heart." 5. The laryngeal and bronchial mucous membranes, if already irritable, are made more so. 6. Owing chiefly to the disturbance in the blood and heart, the processes of nutrition are slowed, and in the young may be seriously affected—tissue is degraded (Acton). 7. The sexual organs are, at first, stimulated, especially by cigarette smoking, but are eventually weakened in power; "excessive smokers, if very young, never acquire, and if older, rapidly lose their virile powers" (Acton). 8. Vision is impaired, especially if alcohol is used in conjunction with the tobacco, "tobacco amblyopia," being produced. 9. Muscular coördination is impaired, especially in the young; drawing masters find that young smokers cannot draw "a clean, straight line."

10. The antidotal effect of alcohol to tobacco leads to forming the habit of drinking. 11. The power of concentrating the mind, and, perhaps, of intellectual activity in general, is lessened."—*Med. Record.*

**RICKETY CHILDREN.**—We cut the following from the remarks of Mr. Clement Lucas in the debate on Rickets at Pathological Society of London:—"Children under nine months, suffering from rickets, will almost invariably be found to be bottle-fed; whereas children suffering from rickets at sixteen or eighteen months will often be found still hanging to the mother's nipple. In either case the diet is injurious, and I will undertake to produce rickets in any child under three years of age that I may be allowed to feed improperly. As regards which child is most frequently attacked by rickets, my experience, in accord with what Sir Wm. Jenner said on the last occasion, was that the eldest child of the well-to-do and the later children of the poor suffer most. The eldest child of the rich suffers because it is an experimental child, and the parents learn by practising upon it how best to feed those that follow."

**INFECTED CLOTHING.**—A matter that should interest the public generally in regard to the health of the community is the danger arising from the handling of infected clothing, &c. The Home Secretary has been petitioned by the local board of Maidstone, to adopt precautions against the peril to the public health from the importation of rags, which may contain the germs of disease. The fearful epidemics that have at times overrun and devastated whole cities through some such causes are too well known to need recapitulation at our hands, and as there is an effective remedy in the way of prevention, those who fail to use it are criminally negligent of their duty, both to themselves and to society at large. Death has often been traced even to the use of paper manufactured from infected rags. A law that would compel the manufacturers to submit their rags to an intense heat before using them, and thus avoid all chances of infection, would, we believe, be beneficial to the public health.

**WATER-CISTERNS AND HOUSE-FITTINGS.**—The following useful directions to be observed in cleaning out water-cisterns, and in examining sanitary house fittings, are issued by the Society for the Sanitary Inspection and Construction of Houses. 1. In cleaning out water-cisterns, great care must be taken not to allow any of the deposit to get into or pass down the service-pipes; these must be plugged, and the residue of water must be taken out with sponge and bucket. If the cisterns are of lead, or lined with lead, they must not be scraped. 2. After the cisterns have been cleaned out, the covers (if

any) should be replaced, the efficiency of the ball taps should be tested, and the ball, levers, and cranks oiled. 3. Examine whether there is a stop-cock in the main service; if so, its description and working condition. 4. Examine whether the cisterns are covered; whether they have overflow-pipes, and if such overflows discharge in the open air or into any soil-pipe, closet, or drain. 5. Examine the service-pipes and valves of all water-closets to see whether they act properly, and note from what cistern the water comes, i.e. whether there is a separate cistern for drinking-water, or whether the same cistern supplies the water for drinking and domestic purposes, as well as for the use of the water-closets. 6. Examine the nature and condition of the safes, traps, soil, and waste-pipes, &c., connected with all water-closets, baths, and sinks, to see if they are in good working order or otherwise. 7. Examine the soil-pipe throughout its course, to see whether it is air-tight or not; any points of leakage should be noted.—Useful hints to householders are, that all houses should be supplied with a stop-cock, so that in case of severe frost, or in the event of repairs, the water can be easily turned off without having to hunt for the regular official, and causing great inconvenience to neighbours by having to turn off at the main. All water cisterns should have a properly fitted cover. It is advisable, when practicable, to provide a separate cistern for the storage of water for drinking and household purposes, distinct from the cisterns that supply the water-closets. The frictional parts of all sanitary fittings should be kept regularly oiled. The seats of water-closets should be loose or fixed with hinges, so that the apparatus underneath can be examined without disturbing the woodwork. It is of great importance that all pipes and fittings should be easily come-at-able. To prevent the bursting of pipes in severe frost, the water should be turned off at the main, and the supply for immediate daily use should be stored in buckets. Covering cisterns and pipes with thick boiler felt, or casing them in sawdust will generally prevent the water from freezing. N.B.—The pipes burst from the expansion of the water in the act of freezing, and not after it is frozen. Water will rarely freeze if it is kept slightly running from the tap. In order to secure clean and wholesome water for drinking and cooking purposes, all water cisterns should be cleaned out at least twice a year.—*British Medical Journal.*

**YE OLD ENGLISH FAYRE.**—The proceeds of "Ye Old Englysh Fayre," held lately at the Albert Hall, will, it is stated, enrich the funds of the Chelsea Hospital for Women to the extent of about £7,540. The fair was revived by Mr. J. S. Wood, the secretary, under the title of "A graunde Fantesia Fayre and Olde Englysh Cheape," at Boling-



broke House, Wandsworth-common, for the benefit of the Bolingbroke House Pay Hospital.

**THE SANITARY CONDITION OF THE HOTELS OF ROME.**—We are glad to learn that a proposition to discuss, by the Italian Medical Association, with reference to the *Italian Times'* Sanitary Commission, the "measures to be taken in view of the arbitrary interference of certain foreign medical practitioners with the hygienic condition of the Roman hotels," has been suffered to lapse. But an Italian physician has addressed an article to the *Popolo Romano*, questioning the right of foreign physicians to interfere with Roman sanitary questions. It would appear, however, from this article, that other than structural arrangements in the hotels should enter into the consideration of the commission, and be borne in mind by visitors. This Italian physician relates the following story:—"A short time since, a Protestant clergyman attended a lady, one of his co-religionists, who died of typhoid fever in one of the principal hotels of Rome. The next day the same clergyman called on a bishop, who had just come to Rome, and had gone to lodge in the same hotel. To his great surprise he found him occupying the very room in which the lady had died of typhoid fever the day before." "The Italian physician," the *Italian Times* remarks, "sees nothing disquieting or improper in this." We apprehend that English visitors to Rome, at least, will see much to disquiet them, and it is well to have the assurance of our contemporary that the Roman hotel-keepers are welcoming the Sanitary Commission which it has established.—*Lancet*.

**THE UNQUALIFIED ASSISTANT SYSTEM.**—Our contemporary the *Globe* says:—"Not a moment too soon, a raid has been proclaimed in the Midland counties against the unqualified medical practitioners who there abound. The evil has now reached dimensions which render united action on the part of the faculty imperatively necessary, if any good is to come from the present agitation. So far, the enemy has prospered, chiefly by reason of dissension in the opposite camp. At a late meeting of the Midland Medical Association it was affirmed that many members of the profession have actually been in the habit of joining in partnership with unqualified practitioners. Others, it is asserted, allow their names to be used by these untrained practitioners, while, in some cases, practices have been sold to them by retiring doctors. As was well said by one speaker, these doings really amount to a fraud on the public, by causing them to imagine that they are being attended by skilled experts, when in reality they are in the hands of ignorant empirics. Another evil is, that when poor patients who have been attended by the unqualified partner die, the one possessing the qualification signs the death certificate, although he may never have seen the deceased.

**FISH FOR FOOD.**—The publication of the truth concerning the scandalous manner in which the Metropolitan fish market is "rigged," and a large amount of highly nutritious and wholesome food thus lost to the public, has done a considerable amount of good, and may be expected to result in a reform of the abuse that has been permitted to grow up in connection with the subject. Most persons are acquainted with the fact that a fish diet is a safe and desirable substitute for coarse meat, which can be advantageously resorted to at frequent intervals. As supplying the material for restoring tissue waste in those whose brains are overtaxed in city pursuits its value cannot be over-estimated, nor as a staple article of consumption among the poorer classes would fish compare unfavourably with whatever is most usually consumed by them. Hence the knowledge that it is to be regarded as a luxury rather than as a common article of diet, because of the avarice of those whose interest it is to maintain a fictitious value for it, reasonably forms a subject of complaint with the public generally. The question of the indignation felt against the fish-brokers is further intensified by the assertion, hitherto uncontradicted, that a daily destruction of tons of fish goes on, simply to maintain high prices, and this in a city where thousands of poor are daily suffering the pangs of hunger. It is safe to assume that no other country in the world would tolerate such gross injustice, and it adds no palliation that the object of the iniquity is the enrichment of some few dealers whose common honesty is too feeble to rebel against the wrong they are committing.—*Med. Press Circ.*

**NEW YORK PLUMBERS.**—A bill has been drawn up by the New York Sanitary Reform Society, and ordered to a third reading, requiring all the plumbers of New York and Brooklyn to have their names registered, and also giving the Boards of Health of the two cities supervision over all new plumbing.

**SHORT-SIGHTEDNESS IN SCHOOLS.**—Much attention has been called in Paris to the numerous cases of short sight in the public schools, which had developed themselves in consequence of the faulty construction of the desks and forms, and the bad distribution of the light. The municipal architects of Paris have taken note of these circumstances in the construction and furnishing of new school-buildings, but it is considered important to lay down practical rules based on sound principles. The Minister of Public Instruction has, therefore, nominated a commission on the hygiene of sight in schools, charged to study the influence of the material conditions of school-buildings and furniture on the progress of short-sightedness, and to discover methods of prevention. The President of this Commission, which is of a comprehensive character, including school inspectors, publishers, and printers, is M. Gavarret; and it



counts amongst its members Drs. Javal, Panas, and Gariel.

**ALCOHOLISM A PREDISPOSING CAUSE OF CRIME AND EPILEPSY.**—In a recent number of the journal with the awkward title, *Brain*, Dr. Clarke has published some tables of statistics, which lead him to the conclusion that alcoholism of parents is a predisposing cause of crime and epilepsy in their children. Forty-four per cent. of the epileptic criminals were the children of drunken parents. The proportion of epileptic and insane relatives is found to be very much greater with criminals than with ordinary epileptics. The convictions for bastardy are three times as numerous among epileptics as among non-epileptics. The statistics show that the amount of crime, as indicated by the number of convictions, is greater among epileptics than among ordinary criminals.

**UNWHOLESOME FEEDING-BOTTLES.**—Some feeding-bottles having a fetid odour were lately brought by Dr. du Mesnil from a *crèche* to the Paris Municipal Laboratory for examination. M. Fauvel found that the milk remaining in all smelt badly, was acid and half-coagulated; the globules were deformed, and numerous very lively bacteria, along with some vibrios, were present. On cutting open the caoutchouc tube throughout its length, coagulated milk with small organisms was met with; but a still more important fact was the presence in the nipple of a mass of vegetation of cryptogamic nature. Sown in whey, this developed considerably in a few days. A visitation of all the *crèches* was arranged by the police and medical authorities, and the following was the result:—Of 81 feeding-bottles examined in 10 *crèches*, 28 contained, in the nipple, the caoutchouc tube, and in some cases in the glass bottle, vegetations of the kind indicated, as well as bacteria, &c. Several that had been washed carefully, and were considered ready for use, still contained these cryptogams. Two feeding-bottles in a very bad state were found to contain pus and blood-corpuscles; the children who had used them had injuries in the cavity of the mouth. It is thus probable that saliva enters the feeding-bottle, and its ferments are added to those of the milk. The acidity of the milk is attributed by M. Fauvel to the bacteria present. The influence of this condition of things in the development of intestinal affections, of which so many infants become the victims, seems to call for serious investigation.—*The Times*.

#### THE COMING INTERNATIONAL MEDICAL CONGRESS.

The following two letters were received by the Honorary Secretary, Mr. Wm. MacCormac, F.R.C.S., in acknowledgment of notices of the Congress and programmes sent to the Empress of Germany and the King of Italy:—

“Berlin, March 26th, 1881.

“I had great pleasure in receiving your communication of the 14th of March, and have taken a lively interest in its contents, as well as in those of the programme of the International Medical Congress which is to meet in London during August next. I have much pleasure in informing you that on account of the great importance of your deliberations, I have commissioned Sanitäts-Rath Prof. Dr. Küster, Principal Surgeon of the Augusta Hospital in Berlin, which is under my patronage, to attend the Congress. I, at the same time, express my desire that, during his stay in London, you will aid him in all matters which may concern his important mission, or the interests of the above-mentioned Hospital. I conclude with the sincere desire that this international meeting of medical authorities on English soil, the birth-place of so many important discoveries for the alleviation of human suffering, may contribute to scientific progress, and prove an enduring bond of union between nations in the cause of humanity.

“(Signed) AUGUSTA.

“Office of the King's Private Secretary,  
“Rome, May 29th, 1881.

“The King, my august Sovereign, has received the programme of the International Medical Congress which will take place in London in August next. His Majesty much appreciates this attention, and recognises the importance the Congress possesses for the interests of science and humanity.

“Moreover, the courteous and polite expressions with which you accompany your offering have been warmly appreciated by the King, who desires me to render to you his most cordial acknowledgments. His Majesty most sincerely desires that the work may be fruitful in the best results, and will be happy to see Italy compete with other nations in the study of medicine.

“In intimating to you these gracious sentiments of my Sovereign, I am glad to profit by the occasion to assure you of my distinguished esteem and respect.

“THE MINISTER OF THE KING'S HOUSEHOLD.”

**FOLLIES OF FASHION.**—Apart from the perennial folly of tight lacing, to which attention was recently drawn by us, and the equally ridiculous and abominable practice of deforming the feet by encasing them in shoes only half their natural size, the last decade has not witnessed anything in dress-foolishness that will compare with the indecent and dangerous thing called “crinoline,” an invention that would have done credit to the most evil-minded of all disreputable geniuses. It is with no ordinary feelings of disgust and loathing that men, to whom there remains any sense of propriety, regard the prospect of a possible resuscitation of this dead

monster; and it may not yet be too late to urge upon those unfortunate beings who will by following the directors of fashion, submit themselves to the horrors of this hideous cage, the grave injury they will thus inflict, not on themselves alone, but on the whole of the civilised world, by consenting to adopt the decrees of silly frivolity. Better by far were it that an attempt should be faithfully made once more to recover the native shape which all but a very few women of this generation are entirely without claim to, by dressing after the model set by the Ladies Dress Reform Association. The follies of fashion are the greatest evil modern society has to combat, and its efforts to resist it are at best but flimsy and unreal.—*Medical Press Circular*.

**HOSPITAL SATURDAY AT BIRMINGHAM.**—The collections of the Birmingham Saturday Fund for the following years were—1873 (first year), £4,215; 1874, £3,850; 1875, £3,606; 1876, £3,484; 1877, £3,069; 1878, £2,994; 1879, £3,330; 1880, £3,666. The ninth collection was made lately, and the sum received was £2,947 18s. 9d., but other amounts were coming in.

**SMALL POX SPREADING.**—At a recent meeting of the Toxteth (Liverpool) guardians it was stated that, owing to the small-pox epidemic in London, and the great traffic between Liverpool and London, the disease was finding its way to the former city, and it was resolved to issue notices of warning to the inhabitants.

**DRINKABLE SEWAGE.**—The *Medical Press and Circular* states that "The guardians" (!!!) "of the Newcastle West Union, in the county of Limerick, have been informed by Dr. Cameron, the county analyst of their district, that the water which is consumed by the population of Newcastle West is nothing better than sewage slightly diluted."

**CURE FOR CORNS.**—It is said that corns can be successfully cured by soaking the feet for several hours a day in water as hot as can be borne.

**BOILS.**—M. Planat having used arnica in superficial inflammations, like erysipelas, boils, &c., was led to believe that arnica will abort the latter with great promptness. The arnica should be prepared in the following manner:—

Extract of fresh arnica flowers, ten grams; honey, twenty grams; powder of lycopodium, sufficient to make a paste of proper consistency to spread.

This should be spread on adhesive plaster and applied to the boil. The plaster should be renewed every twenty-four hours; twenty-five to thirty drops of the tincture of arnica given every two hours facilitates the cure.

**TO MAKE LEECHES BITE.**—Put them in a small glass vessel half filled with water. The part to which they are to be applied is carefully washed with warm water, and the glass inverted upon the skin. The leeches attach themselves with surprising rapidity. When they are all fastened the glass is removed, the water, escaping may be absorbed by a sponge.

**POPULATION AND MORTALITY IN "LONDON WITHIN THE WALLS."**—In the beginning of the last century the population of London within the walls was not much less than 140,000, as proved by deduction from the parish registers, and the annual mortality was as one to twenty of that population. In the year 1750, the population had decreased to 87,000; and fortunately for the health of the citizens, space continues to become more and more valuable for counting-houses and warehouses, rather than for human habitations, so that the population of the City within the walls became 78,000 in the year 1801.

**MORTALITY ON THE GLOBE.**—The *Scalpel* cites from the *Gazette Médicale de Saint Petersburg* a curious calculation concerning the deaths and births of the earth. Taking as a basis for calculation the average mortality of France, which is comparatively low, because of its splendid hygienic and climatic conditions, the number of deaths for the whole globe is computed at 35,639,835 per year, 97,790 per day—67 per minute.

The number of births would be about 70 per minute, 100,800 per day, 36,792,000 per year.—*Lyon Medical*.

**SCIENTIFIC AFFECTION.**—A French chemist is said to have condensed the body of his deceased wife into the space of an ordinary seal, and had her highly polished and set in a ring. He made a nice income by betting with lapidaries and others that they could not tell the material of the seal in three guesses, and, after pocketing the money, would burst into tears and say, "It is my dear, dear wife."—*Canada Medical and Surgical Journal*.

**EXCESSIVE SWEATING OF FEET.**—The feet should be washed well over-night, and then enveloped in about a couple of folds of linen dipped in equal parts of hot water and the following:—"One drachm of sulphate of zinc; two ounces of glycerine of carbolic acid; and eight ounces of water." The linen is tied on by a couple of pieces of tape, and the patient goes to bed, keeping the feet out at the bottom. This is done night after night, with improvement at once.—*British Medical Journal*.

**THE PRIEST AND HOMŒOPATHY.**—The parish priest of Sendomi, in the diocese of Lerida, Spain, has declared that the last absolution, extreme unction, and Christian burial will be refused to any parishioner who allows himself, or whose kindred allow him, to be treated by any but duly qualified medical practitioners. All who are treated homœopathically will be deprived of the rites of the Roman Catholic Church, and be treated as Moors or Jews.—*Lancet*.

**EXTREME ANTISEPTIC PRECAUTIONS.**—In a duel recently, just after the principals had crossed swords, a voice was heard, "Stop a moment, gentlemen." They lowered their weapons, rather hoping that the seconds had agreed on some plan of healing their wounded honour without the necessity of fighting. But alas! it was only the surgeon who, being one of the advanced school, carefully took from his pocket a bottle containing a solution of carbolic acid and wet the points of the sword with it. Then with the air of a man who had done his whole duty, he said, "Now, gentlemen, proceed; you may kill each other, but you run no risk of blood-poisoning."

This is all very well as far as it goes, but we would suggest that at the next meeting our confrère should insist that the combatants be enveloped in a cloud of carbolic spray.—*Lyon Medical*.

**A CHINESE SURGEON AT A THROAT AND EAR HOSPITAL.**—A correspondent informs us that Dr. Yong Ton Wong, the native physician on board the *Hae Shin*, visited the Newcastle Throat and Ear Hospital lately, accompanied by his assistant and interpreter. The doctor, who is about forty years of age, studied at Canton, of which city he is a native. The party were received by the honorary secretary, the Rev. Joseph Slack, and Dr. Ellis, the senior surgeon; and they appeared to be much interested in the examination of the out-patients. They were well acquainted with the use of electricity and galvanism in the treatment of disease. They stated incidentally that Chinese medicine aimed at prevention rather than cure, and that they preferred to save a limb rather than to sacrifice it by an operation. The office of physician is held in high repute in China, and is to some extent considered hereditary; at least, Dr. Yong Ton Wong explained that for several generations the medical profession had been followed in his own family. Before leaving, he inscribed his name in the visitors' book, and asked permission to revisit the hospital and witness the practice.

## SURGERY FOR DENTAL STUDENTS.

By ARTHUR S. UNDERWOOD, M.R.C.S., L.D.S.E., Assistant Surgeon to the Dental Hospital of London.

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## THE FAMILY DOCTOR.

### AN ADDRESS UPON THE USE AND ABUSE OF ALCOHOLIC DRINKS.\*

By WILLIAM BAYARD, M.D. EDIN.

I KNOW of no subject in the present day of such paramount importance to the well-being of mankind as an accurate knowledge of the "use and abuse of alcoholic drinks," embracing, as it does, its medical, its moral, its political and its social aspects. Our professional education and experience teaches us the physiological action of alcoholic liquors upon the human frame, when they should be abstained from, and when they could be taken with advantage; and our professional experience too often teaches us the baneful effects morally and physically upon the individual who indulges in the use of them to excess. While the justice is daily and hourly brought face to face with the "moral evil," the physician is as often called upon to combat the inroads upon the constitution produced by the abuse of them. That the evil is the greatest one of the age, and that it calls loudly for a remedy, cannot for a moment be denied.

Laudable efforts have been made and are being daily renewed by philanthropists to stay the progress of intemperance with its attendant consequences, disease, insanity, crime and poverty. Societies have been formed, laws enacted, and persuasive and coercive measures adopted. Yet, reliable statistics prove that the evil continues to increase with the increase of population. The statesman requires the aid of all enlightened minds to assist him in framing such laws as will meet the difficulty. And the people at large require to be taught that the abuse, and oftentimes the continued use of alcoholic liquors leads to results dreadful to contemplate. They must be made to believe that they are swallowing a

\* Read before the New Brunswick Medical Society

## THE FAMILY DOCTOR.

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poison, which, if taken at improper times and in improper quantities will, sooner or later, inevitably create disease of body and mind. And who can educate them so well upon these points as the physician? and, gentlemen, let me add, I think it our duty as custodians of public health, and as well-wishers of our race, by precept and example, to exercise that influence which each and every one of us can command towards this end.

With the confirmed inebriate we can do little; argument is useless where the entreaties and tears of fond wife, parents, brothers and sisters, are of no avail; the finer qualities of his nature are destroyed, the terrible craving for stimulants has taken the place of his will, and he pursues his course to degradation and death, regardless of consequences. Restraint is the only remedy for him, and when that restraint is enforced for a suitable period, it is often surprising to witness the recovery of body and mind under it. But the difficulties surrounding the general application of it, are such as to have puzzled the minds of the most astute statesmen and philanthropists, yet it is to be hoped that some means may be devised for carrying it out. But we can and should exercise an influence over the minds of the "masses" who believe that alcoholic stimulus in some of its forms, is generally beneficial to the human system and a necessary aid in promoting health and vigour of body and mind, and in resisting the extremes of cold and heat and other depressing agencies. They should be taught that these ideas are fallacious, that the human system can alone be supported in health by food, that alcohol is not a food in the ordinary acceptance of the term, that no tissue of the body can be built up by it; that with other articles of diet, a dangerous craving is created by the continued and unseasonable use of it; that while in moderate quantity it produces an exhilarating effect upon the mind, this exhilaration is certainly followed by a corresponding depression; that while it imparts a temporary strength to the muscular power, that power cannot be sustained under its continued use; that the primary effect of it upon the circulation is to produce a glow of warmth upon the skin, which is of short duration and leaves the body colder; that it does not support the system under the enervating influence of extreme heat; that he who will indulge in the use of it should never do so in health upon an empty stomach; and that every organ of the body suffers more or less from the excessive use of it.

It may be asked what is the effect of alcohol, the base of all intoxicating liquors, upon the tissues of the stomach? We may answer that, in a concentrated form, a chemical action takes place. That in consequence of its strong affinity for water, it seizes that fluid contained in the tissue, producing a coagulation and rendering it hard and dense, and destroy-

ing for a time the absorbing power of that organ, which will only be renewed when the alcohol becomes sufficiently diluted with the water in the tissue. It may be observed that pure brandy, which usually contains equal parts of alcohol and water, is sufficiently strong to produce this coagulation, therefore it must combine with some of the water of the tissue before it can be carried into the circulation. That when *diluted*, it is absorbed into the circulation with marvellous rapidity, as proved by the experiments of Dr. Percy, who found that when death took place in two minutes after it was injected into the stomach of the animal, that organ was found almost void of it, while it was found in the blood, and in considerable quantity in the substance of the brain. It appears to seek out and fasten itself upon the nervous matter, affecting in the first stage of intoxication the intellectual faculties through the *cerebrum*. In the second stage, a disturbed function of the *sensory ganglia*, as indicated by a want of that control over those muscular movements which are guided by sensation. And in the third stage, when the functions of the *cerebrum* and *sensory ganglia* are suspended, those of the *medulla oblongata* and *spinal cord* now begin to be affected, as shown by the difficulty of respiration, strabismus, dilated pupils and tetanic spasms. Richardson tells us that the action of alcohol upon the red globules of the blood is to extract the water from them, thereby reducing their size and altering their shape. He further says, "I found by experiment that in presence of alcohol in the blood, the process of absorption of oxygen was directly checked, and that even so minute a quantity as one part of alcohol in five hundred of blood proved an obstacle to the perfect reception of oxygen by the blood. Hence we may expect the blood to assume a venous character under its influence. The poisonous effect of alcohol upon the blood and nervous matter is antagonized by the efforts made by the system to get rid of it. Recent observations go to show that it is partly eliminated by the lungs, skin, bowels and kidneys. But the amount thus eliminated is so small that it does not account for all that disappears. Carpenter thinks that a combusive process takes place in the blood, at the expense of the oxygen it contains, converting it into carbonic acid and water, while the experiments of E. Smith and others go to show that there is no increase of carbonic acid produced; and Anstie and Thudicum contend that it is consumed in some way in the economy, though how they do not say. Acknowledging that alcohol is consumed in the system, it cannot be classed as a tissue-producing food. It does not supply those substances which go to build up the various parts of the body. But the evidence before us is, I think, conclusive, that when taken in proper quantities and under proper circumstances, it diminishes or arrests the waste of the

tissues, and probably in some way supplies the place of deficient aliment.

It is urged by Beale, Binz, &c. that alcohol possesses the property of restraining the rapid growth of young cells, and like quinine of checking the multiplication of the white corpuscles of the blood. The muscular system, when performing the movements of the body, obeys the will through the nervous system. For the due maintenance of their respective powers, both systems require *materials of growth and regeneration*, which can only be obtained from blood charged with oxygen and purified in the course of its circulation through the body, and this blood can alone be obtained from food, alcohol containing none of the constituents necessary for its production. It is quite true that the *stimulating* effect of alcohol upon the nervous system, increases the nervo-muscular power, which may be forced for a time beyond its natural limit, but cannot be sustained without rest and a renewed blood-supply, which, as already stated, cannot be produced by alcohol. Its action upon the muscular power of the heart is such as to increase the beats of that organ in proportion to the quantity taken. According to Richardson, the man who swallows eight ounces of alcohol in twenty-four hours, increases the number of beats of his heart from 100,000 to 124,045 during that period. Hence we can readily understand the exhaustion consequent upon such increased action. The brain being the instrument by which all mental power is exercised, requires, for the proper performance of its functions, the healthy nutrition of the nervous system, and a due supply of oxygenated and depurated blood, neither of which can be afforded by the alcohol. Yet it must be conceded that the first effect of an alcoholic stimulus is to produce a *temporary* excitation of mental activity. The individual under the influence of it feels an exhilaration of spirits, a sense of gaiety, is pleased with himself and others, his ideas flow rapidly, and he pours forth his thoughts with force of expression and richness of conception. But like as the candle burning brilliantly in an atmosphere of oxygen soon burns itself out, so the over-stimulated brain becomes exhausted, and demands rest, upon the well-known principle that undue mental excitement, from any cause, is invariably followed by depression and languor. The general warmth experienced for a time when a glass of spirits is taken on a cold day, is the cause of the prevalent belief that alcoholic liquors possess the property of enabling the body to resist the depressing influence of extreme cold. Animal heat is maintained by the combination of the carbon and hydrogen contained in certain materials in the blood, with the oxygen taken in by the lungs. Fats and sugars in the blood yield the carbon and hydrogen, and while alcohol furnishes the same elements for combustion,

it is not certain that it plays the same part in the body and cannot be correctly ranked as fuel-food, as has been amply proved by experiment and by the observation of Arctic travellers. The first effects of alcohol being to increase the force and rapidity of the circulation to the extent named, we may naturally conclude that the capillary vessels become gorged, and the blood thus driven to the surface is cooled more rapidly by the outer air, so its secondary effect takes place and the temperature is lowered.

It is now universally acknowledged by those who are called upon to sustain continued bodily exertion under a high temperature, that the work can be better accomplished without alcoholic stimulants than with them, and our physiological knowledge corroborates this experience. The remark is often made that the world would be better without alcoholic drinks than with them; that the evil counterbalances any good that may be derived from them. The answer to this is that every nation has its stimulant of some kind; that kind Providence has permitted the use of them, and if they are abused evil consequences follow. It is quite true that a fascination surrounds the use of them that does not follow the use of other substances equally dangerous.

A certain amount of self-control is implanted in the mind of every individual; he knows that danger attends many of his daily acts; he commits the act and avoids the danger. So with the use of alcoholic drinks,—the danger lies *not in the use* of them, but in the improper use of them. His daily experience teaches him that many, very many, become victims to the *abuse*. He thinks he possesses sufficient self-control to avoid the danger, and so he does up to a certain period; but let him continue to indulge at *improper times* and in *improper quantities*, that self-control is lost, and cannot be regained but by continued total abstinence. He cannot say that he will reduce his allowance; one glass will rekindle his appetite, when the fire will continue to burn until disease and death follow. If an individual is so weak-minded, and so much the creature of impulse and selfish desire, that, having experienced the pleasurable effects of intoxicating drinks, he will voluntarily surrender that power of will given him by Providence for his safety, and throw aside the reins of self-government, and let passion run away with him, he is to be pitied, can claim no respect, and is a fit subject for restrictive laws and punishment. He should know that the highest attribute of a well-regulated mind is the power of self-control, and that the act of self-government is *noble* when exercised in the face of "temptation," nothing without it, and he who will not restrain an injurious appetite degrades himself to the level with the brute creation.

We will be asked whether alcoholic drinks are

necessary ingredients for the sustenance, well-being, and comfort of man. If used, at what times and under what circumstances should they be taken, and in what quantity? And, gentlemen, let me say that, upon the advice we give, depends in a great measure the good we can accomplish. With regard to the first question, we may answer that he who eats well, and sleeps well, does not require alcoholic drinks; that the great majority of persons are better without them; that most of the alcohol consumed is worse than useless, the evils consequent upon its abuse certainly preponderating over the benefits derived from them. But, as I said before, alcoholic drinks have been given to man, and *he will continue to use them*. As well might we attempt to prevent the tide from rising as to prevent the production and consumption of them. Therefore, the efforts of philanthropists should be directed towards the *possible*, not the *impossible*. The fact that alcohol, when taken into the circulation, augments the force and rapidity of the heart's action, increases the excitability of the nervous system, and supplies one of the means of keeping up animal heat, commands it to the physician when other means for obtaining those effects are defective; and our practical experience teaches us that, when administered with caution and discrimination, it is a most valuable remedy in various forms of disease, and one for which no proper substitute has yet been found. As to its mode of action in the cure of disease we cannot speak with certainty. Dr. Burdon Saunderson's theory seems to be accepted; that in certain diseases the tissues waste, first the fat, then the muscles, and that alcohol prevents their waste at a time when the patient is too weak to take other food. He says that "the cause of the waste of the tissues is that they are used or burnt in the process of respiration; alcohol takes their place, and supports respiration when the stomach is too weak to prepare and assimilate any other food for that purpose." Alcoholic stimulants improve the appetite, assist digestion, and in fevers and other wasting diseases they are indispensable. The practical application of them must be left to the judgment of the physician, no two cases being exactly alike, each differing in constitution, temperament, and intensity. But he should always so regulate his dose that mischief may not accrue from over-stimulation. And he should be particularly careful to avoid bringing the system into a habit of dependence upon the stimulus, for it cannot be doubted that over-indulgence has commenced with the therapeutic use of it. Hence he should be ever on his guard. The exhilarating effect of alcoholic beverages is so universally felt that the use of them has become a "social habit," and one so engrafted upon the human mind that no amount of persuasion or coercion can eradicate it. It must be acknowledged that the



social use of them very often leads to abuse. But if we are unable to combat the *use*, let us attack the *abuse*; let us teach those who use them how to do so with comparative safety, and how to avoid the danger.—*Canada Med. and Surg. Journ.*

(To be continued.)

### SKIN AFFECTIONS.\*

By M.D., F.R.C.S.

(Continued from page 4.)

ANOTHER frequent cause of skin disease, and one over which the patient unfortunately has little or no control is heredity, by which term is understood the transmission from parent to offspring of afflictions which often manifest themselves in such an unmistakable manner upon the skin. Some families have a predisposition to certain diseases, which may break out in one generation, and then lie dormant in the system of succeeding generations, to be again brought out when least expected and almost forgotten. It is well known how very hereditary are mania, cancer, and syphilis, and how active measures are always taken to nip in the bud any manifestation of symptoms of these dire diseases, and thus prevent them assuming any large proportions. Many skin diseases may be considered hereditary, and thus it behoves all such as are aware of any hereditary tendency in their families to disease of the skin to be particularly careful that they do not by any misconduct of their own, or carelessness, promote their unnecessary or premature appearance. Blows, ordinary cold, intemperance, profligacy, and undue excitement will often give rise to symptoms of an outbreak of hereditary disease which otherwise might have remained latent in the system of the individual so indiscreet, until the natural course of nature deprived the subtle foe of its power. Contagion and infection are extremely frequent causes of skin diseases, and are unfortunately permitted to spread broadcast some of the most frightful maladies to which man is heir, whilst those in authority deceive themselves by placidly imagining that their half-hearted efforts to stay the ravages of small-pox, syphilis, and the like, will be successful. Until we have properly isolated hospitals for the reception of patients suffering from infectious and contagious diseases, more stringent laws for enforcing the vaccination and re-vaccination of both infants and adults, the establishment of adequate legislative measures for the prevention and diminution of that frightful calamity venereal disease, we must be content to see contagion and infection now and then decimate the population as they have done

so frequently before. Some of the very worst kinds of skin disease that the physician is called upon to treat are those caused by syphilitic contagion; and the fact that our principal seaport towns are hotbeds of this contagion, should make us anxious indeed to see some further action taken by the authorities to remedy the evil. It would be well were those in authority to read Mr. J. R. Lane's interesting and most instructive work on this subject, and carefully ponder over his remark, that if we consider the prevalence of the disease amongst all classes, the many ways in which the innocent as well as the guilty may become its victims, its disastrous results in many cases, and its general deteriorating influence on the public health, it is not going too far to speak of it as one of the most important of the sanitary questions of the day. Another very common affection of the skin propagated largely by contagion is ringworm; and in spite of its well known appearance and contagious character, it is truly remarkable how indifferent people appear to be with regard to it, notwithstanding that it is not by any means one of the most easily cured complaints. Boys suffering from ringworm of the scalp are frequently sent to school armed, perhaps, with certificates from their medical advisers, who have, in most cases, but imperfectly examined them, stating that they are in good health, and thus the disease is rapidly propagated amongst the other boys, until a general stampede takes place from the school, owing to its tardy discovery by the school doctor. The serious inconvenience and pecuniary loss sometimes incurred by schoolmasters from this cause, as well as the loss of valuable time to the pupils, should make proprietors of educational establishments, and the parents of pupils, most careful in examining school boys and girls with a view of discovering some unnoticed eruption of the skin, and thus prevent the serious inconvenience and loss of time and money likely to follow negligence in this particular. It is obviously highly improper for children to be allowed to enter a school whilst suffering from such a complaint as ringworm. Dr. Alder Smith, in his work on Ringworm, truly remarks that the school-matron or other person in charge of a number of boys or girls ought to examine the head and upper part of the body of every child directly it returns to school after the holidays; as during their absence they may have contracted the disease by mixing with other children who have unsuspected ringworm, and therefore are not under any treatment. This examination, he advises, should be repeated every week during term-time, and any child with a suspicious spot sent at once to the school doctor for his opinion. Children at school ought always to have separate washing-flannels, towels, brushes, combs, &c., and their heads should be washed regularly, as well as their bodies, on "bath nights." One cause of skin

\* Written specially for *The Family Doctor*.

disease, met with principally amongst the poor and needy, is improper food. This is not by any means an easy cause to remove, depending as it too often does on want of means; but even with great poverty there is no reason why the small means at disposal should not be expended on suitable and nutritious diet, instead of the rubbish one sees so often on the meal-table of the cottager. The exercise of a little common-sense, and taking the trouble to think a moment before acting, apparently is not usual with the majority of the lower classes, who, as a rule, act impulsively and in contravention of the simplest laws of health and nature. Thus it is that one so often sees in the homes of the poor such fearful discomfort, mixed with the greatest extravagance. This is very apparent in their way of feeding, the food being, more often than otherwise, not by any means of the cheapest or most nutritious kind. Even in sickness parents in this class of life are wonderfully careless about the patients' diet, often providing them with food the very opposite in kind to that which is requisite, and thereby aggravating instead of alleviating their distress. As an example of this indifference and carelessness on the part of parents, I may mention a case which came under my notice some time since. The patient was a child of fourteen months old, suffering from an attack of diarrhoea, brought on by exposure to bad atmosphere, &c. Suitable medicine was prescribed, and strict injunctions left with the mother regarding the diet. The morning after I first saw the child I called at the home to see how it was, when the mother calmly informed me that it had been very cross in the night, and that in order to quieten it she had given it a piece of cheese! On my asking her what on earth made her do such a foolish thing, she replied that she "never gave it a thought, and did not know it would harm it." Another time I was called to see a child rather more than a year old, which was suffering from inanition, and on enquiring what the child's daily food consisted of, was informed that it always *had the best tea*, whereupon I remonstrated with the parents, who excused themselves by saying that "they always got the best they could for it, and the same as they took themselves." This, I believe, is not altogether ignorance, but gross idleness and want of the least bit of thought on the part of the parents. It is quite surprising how many children are brought to me at the Hospital for Skin Diseases to which I am attached, suffering from eruptions brought about by nothing but improper feeding, and as soon as the diet is rectified the complaints disappear. This is applicable as well to adults as to infants, for not only will mal-assimilation and insufficient diet, but also immoderate eating and bad cooking, often cause skin diseases to appear, which, in spite of the most assiduous local medical treatment, will remain persistently until the cause be removed. Over-eating and gluttony are as disgusting

and unmanly as drinking too much intoxicating liquors, and, happily, in the present day it is no longer the custom for an host to insist upon his guests leaving the banquetting-table drunk. The name of those diseases which are brought about by drunkenness is "legion," and the skin is often the seat of the mischief contracted. If the skin is to be kept in a healthy condition it is positively necessary to give up all pernicious dietetic habits, and conform to the laws of health. This is by no means an easy task with some, who are comfortably provided for and have become slaves to their stomachs, but sooner or later they are forced to the conviction that their mode of life must undergo a radical change, perhaps on account of the appearance of a pretty blush on the nasal extremity, or some other equally appalling manifestation. Pernicious habits undoubtedly cling more closely in the daily routine and amid the ordinary affairs of life than they do whilst moving about or travelling amid novel circumstances, which claim all the interest of the enslaved one. In such cases, therefore, a tour in foreign parts should be made, when compatible with the means at hand. The uniform and regular return of the daily phases of life, and the domestic influences, which make a thorough reform in habits of life so difficult, would be wanting in a protracted tour, and the chance of bursting from the thralldom of drink, &c. consequently greater. Again, in order that the skin may be protected from eruptions brought about by a wrong mode of feeding, meals should be taken regularly, and not hurried over, and suppers should be avoided, as bed after a full meal is not only very likely to produce indigestion and various diseases of the skin, but may also prove fatal. We come now to a very fruitful cause of these affections, viz. want of cleanliness and inattention to the ordinary requirements of a healthy skin. Unlike the Romans, who made extensive use of the various forms of baths, not only for hygienic, but also for curative purposes, our own countrymen think but little of such matters. Soon, however, we may expect to see a rush made to the opposite extreme, as is usually the case in this country when some newly-developed idea becomes for the moment the fashion. The value of water, regularly applied to the skin, cannot be over-estimated, and until the lower orders give up their superstitious dread of this commodity, they need not expect to have healthy skins. In our manufacturing towns a little more water used daily by the members of the artizan class would make a wonderful difference to their skins, the pores of which are generally choked with dirt. In bathing, as in most other things, there is a right way and a wrong way, a way by which much benefit is gained by submersion, and a way by which more harm is done than counteracts the benefit derived therefrom. It was originally supposed that in bathing the water was absorbed by the skin and carried into the blood,



which view received strong corroboration from the fact that water was given off in perspiration. The fallacy of this exploded view will be at once apparent to all who will recollect that water is, after all, a combination of two gases, oxygen and hydrogen, in the proportion of one part of the former to two of the latter, holding in solution various salts, &c., and that the far more readily absorbed gases would undoubtedly be more quickly absorbed in their separate states than when combined in a liquid form. It is, therefore, necessary, especially when taking a bath for medicinal purposes, that the particular constituents of the water should be known, for we must remember that water usually contains, besides its necessary constituent parts, other gaseous and solid matters. The main object of hygienic ablutions and baths is the purification of the skin from deposits which are left behind as the residue of cutaneous secretions and of shedding of the epidermis. Frequent cleansing of the skin from this accumulation favours free perspiration, and thereby relieves the perspiratory glands of the skin, which, if not allowed to discharge their contents freely, become diseased. The more vigorous a man's physical movements are, the less need has he of frequent ablutions for the maintenance of health, partly because with physical activity the vicarious exhalation of the lungs increases, and partly because continual friction of the greater part of the skin's surface during active exercise produces perspiration sufficient to perform the mechanical task of opening the pores of the skin, and thereby relieving the glands. Men of sedentary lives, however, should be particular about bathing regularly; and infants, whose lungs discharge their office feebly, should be more frequently washed than adults. Suppression of the function of the skin, it must be borne in mind, not only is liable to bring about various diseased conditions in the skin itself, but also may produce the most serious consequences in the lungs and kidneys by overtaxing their energies. It is obvious, then, to all thinking people, that too much attention cannot be paid to the proper ablution of the body. The question of temperature must next occupy our attention, and it is one concerning which there is a multitude of opinions. The following points ought to be remembered. The temperature of the human body is  $98.5^{\circ}\text{F.}$ , and it does not require a great degree of cold to make itself felt on the surface of the body, although the water must reach as low as  $82^{\circ}\text{F.}$  to freeze the tissues, and  $26.6^{\circ}\text{F.}$  to freeze the blood. The tissues lose their warmth almost as quickly as water, but the blood resists even strong and protracted refrigeration. Thus we must not, in seeking a suitable temperature for the bath, be guided altogether by the feelings, for the water may appear cold to the skin, when in reality it might with advantage be con-

siderably colder in some cases. About  $77^{\circ}\text{F.}$  is considered by most people to be a cold bath, but many prefer it much colder, whilst others cannot take it even as cold as that. It is always well to avoid producing much shock by having the temperature too low, but it is equally advisable not to have too high a temperature. Hot-water baths, as a rule, cannot be condemned too strongly. The vapour bath in skin diseases is one of the greatest boons I know of, and in cases of eczema and lepra, which are by far the most frequent of all non-parasitic skin affections, it is invaluable, but should always be used according to the directions of a medical man. It is far more useful as a remedy for skin affections than the Turkish bath, in the value of which, as a remedy, I have personally little or no faith. Moreover, the after-effects of a Turkish bath are not always pleasant, and sometimes really serious. There is often produced, whilst in the bath, a sensation of tightness round the head, and a feeling of faintness, which it is not always easy to dispose of; and I know of cases where great collapse, lasting for months, has been caused by the taking of a Turkish bath, and irregularity of the heart's action is a common result, which lasts for some time afterwards. These drawbacks are not met with in the vapour baths, besides which, in my experience, putting on one side these drawbacks, more actual benefit is derived in skin affections from the vapour than from the Turkish bath. However, as there are people who will indulge in Turkish baths at all risks, owing to the luxurious and comfortable manner in which they are now taken, I may state, for their guidance, that as water is a far better conductor of heat than air, a warm-water bath is felt much more sensibly by the skin than air of the same degree of temperature; and it is remarkable what a great amount of heat the body will bear for a short time in the surrounding atmosphere. The fear, therefore, of having the temperature of a Turkish bath too high need not seriously disturb the mind, provided too long a stay is not made in the "sweating-room." Before concluding this imperfect essay, I must caution my readers against the growing custom of using regularly tar and other strong soaps. People have an idea that tar soap is good for all skin diseases, whereas it is positively most injurious in many of these affections. Carbolic-acid soap is used almost as indiscriminately, and the injurious effect produced upon the skin by its constant application is too often noticeable. Over-stimulation is injurious to any organ of the body, and the skin is no exception to this rule. Instead of deciding for themselves, it would be far easier, and but of little expense, to seek the advice of a medical man in respect to the kind of soap to be used by those suffering from skin affections.

## TIGHT-LACING.

LATELY a verdict was returned by a coroner's jury which is quite as applicable to not a few cases of premature death which do not happen to be made the subject of medico-legal inquiry. It is difficult to speak with moderation of the folly of tight-lacing in view of such facts as this, especially as no attention seems ever to be paid to the warnings repeated *ad nauseam* against irrational and unhealthy modes of dress. Physiology does not enter into the sphere of the "fashions," the follies of which are productive of more suffering and ill-health than people are willing to concede. In spite of satire on one side and admonition on the other, there seems to be but little diminution in the degree to which these vagaries are carried, as may be proved by anyone who walks abroad during the height of a London season. Why is it that in this matter of "tight-lacing" there should be such tenacity, for there is hardly any subject that has been so unmercifully and yet so necessarily criticised as this? There are only two possible reasons for its maintenance—the one that it is indispensable to the present form of female attire, and the other that it is believed to lend grace to the wearer. Neither of these contentions can seriously be maintained in the face of the known evils which follow the practice, but they are at present ideas so firmly rooted in the female mind that their dislodgment is not easily effected. Now and then, indeed, there seems to be an attempt to introduce a more rational style of dress, but such attempts are rarely successful, owing in great measure to the disposition to ridicule new departures which do not harmonize with the "mode." The medical profession has never ceased to express its opinion upon the evils of tight-lacing, being well aware of the derangements for which the practice is responsible. To be effectual, however, such remonstrances must be given not only to those who follow the practice, but to those who either tacitly or openly encourage it. We are treading, we know, on delicate ground, but it is time there should be plain speaking, even at the risk of giving offence, for it must be confessed—and it is no disparagement to the fair sex to admit it—that so long as men persist in regarding an unnatural deformity as a beautiful object, so long will many women do their utmost to become "beautiful," no matter how painful the ordeal to which they will have to submit. A well-known writer upon female dress not very long since admitted that it was the object of women so to dress as to render themselves attractive to the opposite sex, thereby following out a law which obtains throughout animal creation, and of which there is no denying the truth. But the same author spoke out boldly against the practice of tight-lacing, showing that in her opinion, at any rate, the

practice was not essential for the purpose above stated. In all seriousness, it is a pitiful thing that in these days, when all our youth can obtain an insight into the principles of physiology, there should still prevail a practice so unphysiological as that of which we speak. It stands to reason that long-continued firm compression of the lower ribs cannot be indulged in with impunity. The dorsal, thoracic, and abdominal muscles are rendered feeble from enforced inactivity, respiration is impeded, circulation is carried on under greater strain, and the viscera are displaced to a remarkable degree. In the case which forms the text of these remarks, not only was the liver deeply indented and displaced, but the stomach was constricted into two portions, and both of these effects have often been observed before. The affections attributed to tight-lacing are many and various—some perhaps without sufficient ground; but most certainly respiratory, circulatory, and digestive derangements, not to mention difficulties and dangers in parturition, are directly traceable to tight-lacing. Such derangements lead the way to other and graver changes; they may cause many ailments which render life a misery, or may eventually lead to the premature extinction of life—not perhaps directly, but by rendering the organism unable to cope with disease, however arising. Once more, then, we urge the female members of the community to abandon this fatal article of attire; its utilitarian purpose could no doubt be supplied by means at once more simple and less injurious; and its æsthetic function exists only in the imagination, being grounded on the false and perverted notion that the natural contour of the body is ungraceful, whilst the deformed, contracted "waist" is considered beautiful in proportion as its constriction is extreme.—*Lancet*.

**THE USE AND ABUSE OF RESPIRATORS.**—The nostrils are the natural channels for the introduction of air into the lungs and its expulsion therefrom; they are, by their construction and organization, admirably adapted to serve as such, and, if judiciously employed, and in a healthy condition, are adequate for this purpose, under the varying conditions of weather and climate, unaided by artificial appliances of any kind. So truly says Dr. Hayden. The mouth and fauces constitute the natural passage for nourishment; they are not designed for use as air-passages, and should not be employed to supersede the nostrils in breathing. By their communication with the larynx, or voice-box, they are, however, obviously designed to serve as alternative air-passages, supplementary to the nostrils when the latter are obstructed or defective. If from disease or liability to disease respirators must be worn, they should be made so that the individual can breathe through the nostrils,

and not so that he is obliged to breathe through the mouth. The respirator veil of Mr. Lennox Browne, sold by Messrs. Marshall and Snelgrove, is an excellent substitute for the old-fashioned respirator, and is made on an excellent principle. Most other respirators just do what they ought not to do—protect the mouth from the cold air, when in natural breathing air would never enter the mouth at all, and leave the nostrils entirely unprotected, through which in natural breathing all the air should pass.

**DARWIN ON VIVISECTION.**—Mr. Charles Darwin has addressed a letter to Professor Holmgren, of Upsala, in answer to a request for his opinion on vivisection, in which he says:—"I have all my life been a strong advocate for humanity to animals, and have done what I could in my writings to enforce this duty. Several years ago, when the agitation against physiologists commenced in England, it was asserted that inhumanity was here practised, and useless suffering caused to animals; and I was led to think that it might be advisable to have an Act of Parliament on the subject. I then took an active part in trying to get a Bill passed, such as would have removed all just cause of complaint, and at the same time have left physiologists free to pursue their researches—a Bill very different from the Act which has since been passed. It is right to add that the investigation of the matter by a Royal Commission proved that the accusations made against our English physiologists were false. From all that I have heard, however, I fear that in some parts of Europe little regard is paid to the sufferings of animals, and if this be the case I should be glad to hear of legislation against inhumanity in any such country. On the other hand, I know that physiology cannot possibly progress except by means of experiments on living animals, and I feel the deepest conviction that he who retards the progress of physiology commits a crime against mankind. Anyone who remembers, as I can, the state of this science half a century ago, must admit that it has made immense progress, and it is now progressing at an ever-increasing rate. What improvements in medical practice may be directly attributed to physiological research, is a question which can be properly discussed only by those physiologists and medical practitioners who have studied the history of their subjects; but, as far as I can learn, the benefits are already great. However this may be, no one, unless he is grossly ignorant of what science has done for mankind, can entertain any doubt of the incalculable benefits which will hereafter be derived from physiology, not only by man, but by the lower animals. Look, for instance, at Pasteur's results in modifying the germs of the most malignant diseases, from which, as it so happens, animals will

in the first place receive more relief than man. Let it be remembered how many lives and what a fearful amount of suffering have been saved by the knowledge gained of parasitic Borms through the experiments of Virchow and others on living animals. In the future everyone will be astonished at the ingratitude shown, at least in England, to these benefactors of mankind. As for myself, permit me to assure you that I honour, and always shall honour, everyone who advances the noble science of physiology.—*Medical Times and Gazette.*

**THE INTERNATIONAL MEDICAL CONGRESS.**—The most remarkable and the most successful Congress of medical practitioners from all nations of the globe ever held, took place last month in London. Remarkable on account of the enormous dimensions it attained, and successful on account of the great number of eminent foreign doctors who attended, and the amount of work accomplished. The first meeting of the Congress was formally opened on Wednesday, August 8th, by H.R. & I.H. the Prince of Wales, who made an excellent speech, thoroughly suitable to the occasion. The meeting was further honoured by the presence of H.R. & I.H. the Crown Prince of Germany and Prussia, than whom no one has greater reason to value the services rendered by prompt and efficient surgery in times of great emergency. Sir James Paget was elected President of the Congress, and delivered a most able and scholarly oration, which called forth deafening applause. Upwards of 8,500 members registered their names at the College of Physicians, including 29 from France, 14 from Belgium, 89 from Germany, 6 from Austro-Hungary, 17 from Italy, 19 from Holland, 10 from Switzerland, 11 from Scandinavia, 6 from Denmark, 5 from Spain, 2 from Portugal, 14 from Russia, 1 from Roumania, 8 from Turkey, 1 from Greece, 3 from Egypt, 1 from China, 3 from Brazil, 2 from Japan, 2 from Siam, 1 from the Argentine Republic, 1 from Chili, 22 from the United States, 19 from Canada, 8 from India, 2 from Australia, 1 from New Zealand, and the rest from various parts of the British Islands. Amongst the various entertainments provided for the members of the Congress by the Executive Committee, was a banquet given by the Lord Mayor of London at the Mansion House, for which 260 invitations were issued, principally to the foreign and extra-metropolitan members. His Lordship also gave a grand reception at the Guildhall, at which between three and four thousand members congregated, many of them accompanied by ladies. Here were to be seen representative men of the profession from all parts of the world, with here and there a learned visitor from the celestial empire, from Japan, Siam, Bengal, Turkey, South America, &c., dressed in costume strangely differing from the great majority, but

withal lending a picturesqueness to the gathering not to be soon forgotten by any who were fortunate enough to be present. Other enjoyable entertainments were provided for the visitors after each day's work was finished, such as garden parties innumerable, luncheons, dinners, excursions to Folkestone, Greenwich, Woolwich, Richmond, and the Crystal Palace. All the papers that were read or sent in to the Committee were printed beforehand in English, German, and French, in one large volume, so that those who were not conversant with all three languages were at no inconvenience on that score. Altogether the Congress was a decided success, and will be looked upon as one of the wonders of the age.

**THE INTERNATIONAL MEDICAL AND SANITARY EXHIBITION.**—During the time the International Congress was being held, there was also held in the galleries opening on to the gardens of the Royal Horticultural Society at South Kensington, and in the Albert Hall, an international exhibition of all modern appliances and inventions for the prevention and alleviation of disease. The opening ceremony took place on July 16th, and was attended by about two thousand persons, who showed considerable interest in the exhibition. Earl Spencer, Lord President of the Council, occupied the chair at the ceremony, and was supported on the platform by Earl Granville, K.G., Sir James Paget, Bart., and others. Many interesting objects were exhibited, amongst others of interest to the non-medical public being the following:—

Messrs. Hayward, Tyler & Co., 84 Upper Whitecross Street, showed, with other things, a new form of closet, the "full-flush valveless closet," with excellent patent flushing arrangements.

Messrs. J. Warner & Sons, Cripplegate, exhibited a number of improved water-closets, commodes, and baths; also the "Bower patent sewer gas-trap," which retains no sediment, at the same time that it prevents any injurious gases from being given off from the sewer into the house.

Mr. W. W. Hopkinson, 141 Fetter Lane, E.C., showed a libra lamp, with independent reservoir for mineral oil, which requires trimming but once in 100 hours, the burner never requiring removal except to apply a new wick.

Messrs. H. Doulton & Co., Lambeth, exhibited the "Vacuum" water-waste preventor, applied to the Lambeth flush-out closet, an efficient, economical and durable system. Doulton's manganous carbon filter (Dr. Bernay's patent) possesses a great desideratum, viz. that every part of the filter can be separated and cleaned with ease.

Messrs. Shanks & Co., Glasgow, exhibited some excellent lavatories and sinks, also the "trapless" and "Bramah-valve" water-closets, and Shanks'

patent "wash-out closet." Their sitz bath, fitted with Shanks' patent supply system, is very useful.

The Antiseptic Apparatus Co., 27 Harrow Road, showed in action an excellent and simple appliance for preventing bad smells in water-closets. It can be easily fixed, is very cheap, and will not readily get out of gear.

The Sanitary Engineering and Ventilating Company, 115 Victoria Street, showed a large assortment of ventilators. The imperial aerating filter is well worth notice, is portable, and otherwise a desideratum.

Messrs. W. Tonks & Sons, Mosley Street, Birmingham, exhibited a very useful selection of bolts for securing doors, either when shut or slightly open for ventilation. They also show Currell's patent outlet and inlet ventilators for removing vitiated atmosphere, and allowing fresh air to ascend to the top of rooms.

Messrs. Steven Brothers & Co., 85 Upper Thames Street, showed a large assortment of improved cooking-ranges, and a number of patent baths.

Mr. Van Abbott, 5 Princes Street, Cavendish Square, showed a number of gluten preparations for people suffering from Diabetes. They are all perfectly free from starch, and of the utmost value.

Messrs. Brand & Co., 11 Little Stanhope Street, exhibited their well-known essence of beef, concentrated beef tea, soups, jellies, &c. These are highly recommended.

The Aylesbury Dairy Company showed their celebrated koumiss, which is a refreshing effervescent preparation of milk, highly recommended by the Faculty.

Messrs. Allen & Hanbury, Plough Court, Lombard Street, had a large display. Cod-liver oil devoid of any nauseous flavour, Tonga for neuralgia, throat pastiles, patent vaporisers, &c., were exhibited.

Messrs. Felton & Sons, Albemarle Street, showed their specialité lime-juice cordial, specialité sherry, &c., which are very wholesome, pure, and refreshing.

The Cheeseborough Manufacturing Company, 41 Holborn Viaduct, are well-known for their Vaseline, which was exhibited here. It is a petroleum jelly, with no taste or smell, particularly useful for healing purposes, and adopted by the profession all over the world.

Delacre's Extract of Beef Co. occupied a very important part of the exhibition. Their beef-extract is a very valuable preparation, entirely free from the obnoxious flavour of burnt something, usually present in beef extracts.

Messrs. Burroughs, Wellcome & Co., 7 Snow Hill, London, caused great enthusiasm by their excellent and useful display. Their Kepler malt-extract, beef and iron wine, syrup of hypophosphites, Hazeline, and ovoid pills are too well known and too highly

recommended by the profession to need much praise on our part. One of their excellent preparations, viz. Kepler malt-extract with cod-liver oil, is a particularly valuable one, combining the much-desired effects of the extract and oil without having any disagreeable taste. In this form cod-liver oil is made quite pleasant. They also exhibited samples of Wyeth's dialysed iron, a very valuable preparation. To the weak and sickly with irritable stomachs, these preparations are indeed a great boon.

The Bellthall Brunnen Co., 40 Old Bond Street, showed samples of their water, which is very delicious, and will keep for many years.

Mr. John Bonthron, 106 Regent Street, exhibited specimens of diabetic biscuits and bread, also bran biscuits, made from the inner bran of wheat, highly recommended as a remedy for obesity. These preparations are all palatable and tasty.

Owing to want of space we must leave the remainder of the exhibitors until our next issue, when they will be noticed as fully as possible.

**BRITISH MEDICAL ASSOCIATION.**—The Association held its forty-ninth annual meeting at Ryde, Isle of Wight, on August 9th, 10th, 11th and 12th. Following so closely upon the heels of the much larger international gathering of doctors in London, it was not expected that this year the attendance would be very numerous; but, to the surprise of all concerned, the meeting assumed rather large proportions, and passed off very satisfactorily. Mr. Benjamin Barrow, of Ryde, was elected President for the ensuing year, and delivered an excellent address. There were present a large number of foreign medical men, who had been attending the London Congress, which made the meeting rather more interesting than it otherwise might have been.

The business of the meeting was transacted pleasantly, the arduous labours of the *savants* being varied by the most delightful excursions and entertainments. Dr. J. S. Bristowe delivered the address in the Section of Medicine, and made several remarks to which many members took exception.

He traced the history of the founder of Homœopathy, and gave copious quotations from his works, which showed, he said, that Hahnemann seemed to have started with the fascinating belief that all symptoms of disease, and, therefore, from his point of view, all diseases are curable. He also seemed to have adopted the belief that for all diseases nature had provided a cure; and he held that the only proper and efficient cure for any assemblage of symptoms is a remedy which is capable itself of causing in a healthy person an identical production of symptoms. In order to cure any natural disease that may come before us, it is only necessary to administer that particular remedial agent which is

capable of producing identical symptoms with it, and, of course, this must be given in a suitable dose; for, if given in too minute a dose, it left a residuum of the original disease uncured; if in too large a dose, it cured the disease, but induced after-effects of its own. It was almost impossible to conceive of any physician working daily by the bed-side of his patients, and in the dead-house, and seeing diseases as they are, framing such a system, except as a joke. It could only have been the serious work of a visionary who had thrown off the trammels of fact, and allowing his imagination to run riot, mistook its faatastic figments for a revelation from heaven. After dealing humorously with the doctrine of infinitesimal doses, Dr. Bristowe said that it was not surprising that a very strong feeling of hostility should have arisen early between the orthodox practitioner and homœopathists. There was still a tendency amongst them to look upon homœopathic practitioners as knaves or fools. But surely this view was wholly untenable. That all homœopaths were honest was more than he would venture to assert, but that a large proportion were honest was beyond dispute. It was quite impossible that homœopathic schools and hospitals should have been established, and periodicals devoted to it be maintained, if it were all merely to support a conscious imposture. They would find in this homœopathic literature plenty of literary ability, and he had perused many papers on homœopathies proving the authors to be men of thought and culture, and from which he had derived pleasure and profit. These men had all been educated in the orthodox School of Medicine, and passed the examination of recognised licensing boards. It was, however, very difficult to account for the beliefs and vagaries of the human intellect, and if we wished to live broad and unselfish lives, we must be slow to condemn all those who entertain convictions which to us might seem logically untenable, or to refuse to co-operate with them. He would now venture to express an opinion which was doubtless opposed to the opinions many of them entertained. It was that when homœopathists were well informed and legally qualified practitioners, they should be dealt with as such. He would not discuss the question whether they could with propriety or benefit to their patients meet homœopaths in consultation, but he thought he could adduce strong reasons in favour of the morality of acting thus. But who that had any faith in his profession had any fear from homœopathy? All science was on their side, and as a body they were honest seekers after truth. Bigots were made martyrs by persecution, and in the absence of a stimulus of active opposition sects tended to disintegration. The rise and spread of homœopathy was largely due to the strong antagonism it had evoked from the schools of orthodox

medicine, and to the isolation which had thus been imposed on its disciples. If false, as he believed it to be, its doom would be sealed when active antagonism no longer raised it into importance. At any rate, breadth of view and liberality of conduct were fitting characteristics of men of science.

**WHEN MEN ARE AT THEIR BEST.**—Dr. Beard states that from an analysis of the lives of a thousand representative men in all the great branches of the human family, he made the discovery that the golden decade was between forty and fifty; the brazen between twenty and thirty; the iron between fifty and sixty. The superiority of youth and middle age over old age in original work appears all the greater when we consider the fact that all the positions of honour and prestige—professorships and public stations—are in the hands of the old. Reputation, like money and position, is mainly confined to the old. Men are not widely known until long after they have done the work that gave them their fame. Portraits of men are delusions; statues are false! They have been taken when men have become famous, which, on the average, is at least twenty-five years after they did the work which gave them their fame. Original work requires enthusiasm. If all the original work done by men under forty-five were annihilated they would be reduced to barbarism. Men are at their best at that time when enthusiasm and experience are most evenly balanced. This period, on the average, is from thirty-eight to forty. After this the law is that experience increases, but enthusiasm decreases. Of course there are exceptions.

**WHAT INFLUENCE HAS RACE ON INSANITY?**—Dr. E. C. Spitzka (*Jour. Nerv. and Mental Diseases*, Oct. 1880), presents the results of a study of this question in the New York City Asylum for the Insane. He finds that, on the whole, the different forms of insanity occur in the same proportions, nearly, in the Anglo-Saxon, Teutonic, Celtic, and Hebrew races. Paralytic insanity is most common among Anglo-Saxons, and least common among negroes; melancholia is most common among the Germanic peoples; the tendency to terminal dementia is greater in the Anglo-Saxon than the German or Celt; and the forms dependent on hereditary taint are most common among Hebrews. With this it is in accord, that since that termination in dementia and the influence of heredity are the factors which cause an accumulation of the insane population, that the Hebrew and the Anglo-Saxon should have the highest proportions insane of their respective populations.

**A FRENCH BARBER ON BALDNESS.**—Speaking of the credulity of many people touching the efficacy of

hair tonics, an intelligent French hair-dresser (in the *Scientific American*) says :—

Very often the hair falls out after sickness. In such cases it generally grows again without the aid of any hair tonic whatever; but when it falls out from natural causes it never grows again. The celebrated Dr. Bazin, who was formerly physician-in-chief of the St. Louis Hospital at Paris, and who is known throughout the world as the most learned specialist for affections of the skin, told me one day that there was nothing that could make the hair grow after baldness had come on gradually. This I believe firmly, for if there was anything of the kind, we would not see so many New York doctors with heads as completely destitute of hair as the backs of turtles. I am even persuaded that these gentlemen would follow the example of those Greek heroes who, under the leadership of Jason, made a voyage to Colchis to bring back the Golden Fleece. Modern Argonauts, the doctors, would consider themselves happy if they could bring back from such a voyage the secret of restoring the human fleece.

I don't think I am far from the truth when I say that, during the past twenty-five years that I have practised the profession of hair-dresser, I have made the trial upon different bald heads of more than five hundred different hair tonics, and I am bound to admit that I never saw a single head the hair of which was restored after baldness. At the end of so many failures I am completely undeceived as to the value of all the preparations, and I would not now recommend any one of them, because I would be afraid to commit the crime that is designated by the words "obtaining money under false pretences." In my pathological studies upon the hair I have found that people who perspire a great deal from the head are apt to get bald. The bad habit of wearing hats indoors is also very hurtful to the hair. In 1806, after the famous battle of Jena, in which the Prussians were completely defeated by Napoleon I., Baron Larrey, the celebrated military surgeon, perceived that many of the German prisoners were completely bald. Surprised, he made inquiries as to the cause of this, and found that they owed their baldness to the shape—as homely as unhealthy—of their caps. The foul air of their head-gear, having no issue, destroyed the vitality of the hair.

**A HUSBAND'S LIABILITY FOR HIS WIFE'S MEDICAL ATTENDANCE.**—It is not a frequent occurrence—a suit in a Scotch law court for a doctor's bill, and especially of the importance of the one now alluded to. Lately, Dr. Dionysius Wielobycki, residing in George Square, Edinburgh, sued Isaac Atkinson, tailor and clothier, residing in Portobello, before Sheriff-Substitute Hallard, for the sum of £107. The total account was £128, of which £21 had been paid, and was for services as professional

attendant on Mrs. Atkinson, wife of the defender, and extending over a period of nearly ten years. Payment had been refused on the ground that Dr. Wielobycki had never been employed by the defender, and that he had made the attendance solely on the personal credit of Mrs. Atkinson, and that she had separate means, exclusive of the defender's rights as husband. The Sheriff took some days to consider the matter, and ultimately decreed in favour of Dr. Wielobycki for the sum of £90 and expenses. In a note he says that on the main issue there was no reasonable ground of doubt.—*Brit. Med. Journ.*

A CHEMIST at Bridgewater has been fined £10 and costs under the Sale of Food and Drugs Act, for dispensing a quinine mixture ordered by the medical officer of the Union, with only about one-third the due proportion of quinine.

TO TEST HOUSE DRAINS.—In London house drains are tested by pouring in at the highest point of the pipes an emulsion of oil of peppermint and water, following this up with a couple of buckets of water to wash the emulsion through the drains. Should there be any leaks they can be located by the penetrating smell of the peppermint. The same system, we believe, is used in Boston.—*Druggist Circular and Chemical Gazette.*

WHEN SCIENTISTS OUGHT TO BE KILLED.—Professor Huxley says he has long entertained the conviction that any man who has taken an active part in science should be strangled at sixty. In his experience, ninety-nine men out of every hundred become simply obstructionists after that age, and not flexible enough to yield to the advance of new ideas. They are, in short, "old fogies," and he thinks the world would be benefited by the operation he suggests. It may be interesting to note, by the way, that the learned professor himself is fifty-five.

THE APOTHECARY'S PRAYER.—At a medical meeting in America one of the objects of interest, and which was source of considerable amusement and banter, was a reprint of an old engraving representing a cadaverous pharmacist kneeling before a chair, and offering up the following supplication:

"O, mighty Æsculapius! hear a poor little man overwhelmed with misfortunes; grant, I beseech thee, to send a few small fevers and some obstinate *catarrhs* amongst us, or thy humble supplicant must shut up shop. And if it should please thee to throw in a few *cramps* and *agues* it would greatly help thy miserable servant; for on the words of an Apothecary I have scarcely heard the music of *mortar* this two months.

"Take notice also, I beseech thee, of the mournful condition of my neighbour, CRAPE, the Undertaker, who suffers considerably by my want of practice, and loses many a job of my cutting out; enable him to bear his misfortunes with philosophy, and to look forward with new hope for the tolling of the bell.

"*Physic* those, I beseech thee, that will not encourage our profession, and *blister* their evil intentions, viz. such as their cursed newly-invented waterproof; and may all the coats be eaten by the rats, that are so made. But pour down the *Galen*, *Balm of Gilead*, on the Overseers of the village, and all the friends of *Galen*.

"May it please thee to look over my book of bad debts with an eye of compassion, and increase my neighbours' infirmities; give additional twinges to the Rector's *gout*, and our worthy Curate's *rheumatism*; but above all, I beseech thee to take under thy especial care the Lady of Squire HANDY, for should the child prove an heir, and thy humble servant so fortunate as to bring the young gentleman handsomely into the world, it may be the means of raising me to the highest pinnacle of fortune."

#### NOTICE.

All letters and other communications for the Editor should be addressed to him at the Publishing Office, and, if for publication, should be written legibly, and on one side of the sheet only. Communications relating to subscriptions and advertisements should be addressed to the Publishers.

No notice will be taken of anonymous communications unless authenticated by the name and address of the author, which need not necessarily be published.

The following books, pamphlets, &c., have been received:—*Surgery for Dental Students*, by Arthur S. Underwood, M.R.C.S., L.D.S.E. (W. H. Allen & Co.) *The Nose Machine*, by Alexander Ross, M.A., LL.D. *Second Sight*, by the same Author. *Superfluous Hair*, by the same Author.

#### CORRESPONDENCE.

To the Editor of THE FAMILY DOCTOR.

SIR,—I have been deaf for many years, although only a young man (32), and have tried to get relief at the hands of many doctors. Can you inform me where to apply, that I may chance to derive real benefit? I should be grateful to you for a hint, and enclose my card.—Sir, yours obediently,

A SUBSCRIBER.

[Your case is probably a very obstinate one, and we recommend you to see one of the medical officers at any of the Ear Hospitals. There is one at 13 Howland Street, W., another at 66, Frith Street, Soho Square, W., and another at Gray's Inn Road, W.C. All these are within easy reach.]

COUNTRY SUBSCRIBER.—Apply to a registered practitioner, and if convenient, to one who makes a speciality of the cure of spinal deformity. Don't quack, it does not pay in the end.

W. A. B.—Kindly communicate with the publishers, who will give you the information you require.

J. M. has omitted to enclose his card.



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## THE FAMILY DOCTOR.

## THE PREVENTION OF CONTAGIOUS DISEASES.

By C. A. CAMERON, M.D., Ph.D., Sanit. Sci. Certif., F.R.C.S., M.K.Q.C.P., &c. Professor of Hygiene and Chemistry at the Royal College of Surgeons in Ireland.

**THE NATURE OF CONTAGIOUS DISEASES.**—Nearly one-fourth of the deaths in the United Kingdom occurs from diseases termed *zymotic*, or contagious; Asiatic cholera, small-pox, scarlatina, typhus fever, whooping cough, and measles are *zymotic* diseases. Inflammation of the lungs, disease of the heart, and numerous other maladies, arise spontaneously in the case of each individual; whereas small-pox and similar complaints are communicated from the sick to the healthy, and by that way *alone*; hence the latter are termed “taking” or “catching” diseases.

The origin of the contagious diseases is unknown to us. Each of them probably originated in some most extraordinary combination of morbid circumstances, affecting, perhaps, but a single individual. A new *zymotic* disease may at any time come into existence; for some of those which now affect us were unknown, there is good reason to believe, a thousand years ago.

Very little is known relative to the intimate nature of the contagious diseases. We know that they are communicated from individual to individual, that their propagation can be greatly controlled by human agency, and that their symptoms, like those of other complaints, are more or less amenable to medical treatment; but what it is that passes from the body of the affected into that of the healthy, and makes the latter ill, we know not. The most general and reasonable theory with regard to the nature of contagion is, that every case of *zymotic* disease is produced by the introduction into the body of a healthy person, of extremely minute particles, gene-

rated in, and cast out of, the bodies of the sick. These little particles are supposed by some writers to be originally of vegetable origin, whilst others regard them as excessively minute and very lowly organized animals. Each *zymotic* disease is produced by a different germ, or virus, or whatever the contagious principle may be. It would appear that the virus of each *zymotic* cannot long exist outside the human body; and it is very probable that if all the germs of a *zymotic* disease, let us say small-pox, now in existence, were destroyed, the malady would disappear for ever. The contagious complaint termed “scab,” or “itch,” is produced by the ravages of a little insect (the *Acarus scabei*), which burrows beneath the skin and multiplies therein. This troublesome disease never originates spontaneously; for the insects which are the cause of it do not come into existence spontaneously: they are, like all other animals, derived from pre-existing forms of life of the same nature. Now it is quite evident that if every *Acarus scabei* now living or in embryo were destroyed, there would be an end—and most likely for ever—of the itch, or scabies.

As the itch is produced by the introduction of a living being of sensible magnitude into the skin, so it is supposed that the other contagious or infectious diseases are caused by living things getting into the body. Those beings are, however, so very minute that hitherto they have not been satisfactorily examined. They are believed to possess a very simple structure, and to be in organization not superior to the bacteria, or the amœbæ amongst animals, or torula (yeast plants) amongst vegetables; indeed, bacteria have lately been termed microzymes, or *zymotic* particles.

The contagious matter enters the body in different ways. The virus of typhoid fever is often introduced into the stomach by means of contaminated water and milk. The poisons of small-pox and of typhus fever are wafted through the air. The contagion of scarlatina has been known to remain active for months in clothing; and many persons have caught this disease from inhabiting an apartment in which a patient had been confined several weeks previously.

To a very great extent, we are able to protect ourselves against the attacks of contagious diseases by paying strict attention to cleanliness, ventilation, and dietetics. Abundance of fresh air should be admitted into our dwellings; the sun's rays should be allowed to freely penetrate into all the recesses of our houses; refuse animal and vegetable matter should be expeditiously removed; the sewers should be kept in good order. We should see that our supplies of water are derived from a pure source, and we should maintain our persons, clothing, and apartments in as cleanly a state as the most frequent and liberal application of soap, water, and brushes can



accomplish. Every person is not equally susceptible to the influence of contagion. It is found that the intemperate are more likely to catch contagious diseases than temperate persons. Anything that lowers the vital powers predisposes persons to contract such diseases as fever, cholera, and small-pox. Unripe, or over-ripe fruit and green vegetables often induce an attack of cholera; and when that disease is epidemic, great attention should be paid to diet, and if pump or other suspicious water be used, it should first be boiled and filtered.

**DISINFECTANTS.**—The term disinfectant includes, in the widest acceptance of the term, all the substances which prevent putrefaction, or which rapidly destroy decomposing organic matters and foetid gases and vapours. One class of disinfectants is really composed of antiseptic substances—bodies which, like carbolic acid, almost completely prevent the decay, or decomposition of animal and vegetable substances. Most disinfectants act also by destroying low forms of animal and vegetable life and their germs; for those minute beings are believed to be concerned more or less in the decay of organic matter, and in the spread of contagious disease.

Disinfectants are valuable sanitary agents, and their use is desirable even when no contagious disease is prevalent, and notwithstanding that the strictest cleanliness is observed. When cholera or other zymotic is raging, the employment of disinfectants is imperatively required; and a few shillings spent in the purchase of these articles might often be the means of saving valuable lives.

There are an immense number of bodies to which disinfecting properties have been ascribed, but I shall only describe those the efficiency of which has been fully proved.

**Nitrous Fumes.**—On dissolving copper in nitric acid a colourless gas is evolved, which, on coming into contact with the air, absorbs oxygen from the latter, and produces ruddy fumes—a variable mixture of nitrous acid and hyponitric-acid. These fumes are, perhaps, the most powerful of the gaseous disinfectants, but they are so dangerous to life that they should only be used under the immediate superintendence of a scientific or medical man.

**Chlorine.**—By heating black oxide of manganese with about four times its weight of commercial muriatic-acid, a yellowish green gas, termed chlorine, is evolved. It possesses a very powerful odour, and cannot be safely inspired, even when largely diluted with air. The gas can also be obtained by adding five parts of alum cake to four parts of bleaching powder, or chloride of lime; or, but in an impure, but equally efficacious, state, by the addition of one part of oil of vitriol to three parts of bleaching powder. A few crystals of potassic chlorate (chlorate of potash), placed in a saucerful of muriatic-acid, slowly evolve chlorine.

**Sulphurous Acid** is prepared by burning sulphur. It is a colourless gas, and, like chlorine, cannot be breathed without injury to the lungs. It is one of the most ancient and valuable of the disinfectants.

**Heated Air.**—Common atmospheric air, heated to a temperature of above 250 degs., is a powerful disinfecting agent, suitable for clothing, bedding, &c.

**Muriatic Acid.**—The acid liquid known in commerce by the name of spirits of salts, or muriatic-acid, is water containing in solution about one-third of its weight of hydrochloric-acid gas. By boiling the commercial article, the gas which it contains is, in great part, expelled, and it acts as a disinfectant of moderate power. The liquid also possesses disinfecting properties.

**Condy's Liquid** is a solution of permanganate of potassium in water. It acts by freely parting with the large proportion of oxygen which it contains, when it comes in contact with organic matter, especially if the latter be in a decaying state. Although by no means so powerful as some other disinfectants, it possesses the great advantage of being without odour, and it is, therefore, well adapted for use in the sick room.

**Carbolic Acid.**—Pure carbolic acid is a white crystalline solid; but the commercial article is a thin, tar-like liquid, with an odour resembling that of a mixture of tar and creosote. This substance acts by reason of its great antiseptic virtues. When mixed with animal or vegetable substances, it prevents them from fermenting, or becoming putrescent; but it allows them to undergo a very slow and harmless kind of decay, or oxidation, during which process no hurtful matters are evolved. It destroys animalcules and minute plants; but in this respect it is excelled by other sanitary agents. There can be no question as to the valuable disinfecting properties of carbolic acid, and it is to be regretted that its odour is objectionable, and that so many accidents have occurred from persons drinking it in mistake for porter and other liquids. Tar, and tar oils, possess, but in a much feeble degree, the disinfecting properties of carbolic acid; whilst picric acid and benzoic acid (a dear substance) are probably more powerful sanitary agents than carbolic acid.

**Vinegar and ammonia**, though used as disinfectants, are of but little value as such.

**Sulphate of Copper** (*Bluestone*, or *Blus Vitriol*).—Bluestone possesses powerful germ-destroying and anti-putrefactive properties. It instantly removes the odour of sulphuretted hydrogen. This salt is poisonous.

**Nitrate of Lead** has been used as a disinfecting agent, but not largely. It rapidly removes the odour of sulphuretted hydrogen, and may be applied to foul sewage. This salt is poisonous.

**Sulphate, Sulphite, and Chloride of Zinc** are, especially the latter two, good disinfectants, particularly

for sewage; but they have the disadvantage of being poisonous. "Burnett's Solution" is simply chloride of zinc dissolved in water; it may be easily prepared by dissolving pieces of zinc in muriatic acid.

*Ferrous Sulphate* (*Sulphate of Iron, Copperas, or Green Vitriol*) is the cheapest of the heavy metallic salts used for disinfecting purposes. It is applied to manure heaps and sewage; but it is not a powerful sanitary agent. Ferric chloride, or perchloride of iron, has been employed rather largely as a sewage deodorant. It is prepared by dissolving rust of iron in muriatic acid.

*Bichromate of Potassium* (*bichromate of potash*) is extolled as a disinfectant by Dr. Angus Smith, a distinguished sanitarian, and still more recently by Dr. Dougall, of Glasgow: the latter says of chromic acid (prepared by adding sulphuric acid to bichromate of potassium), that its antiseptic power is double that of carbolic acid, and that "it must ere long take the foremost place as a sanitary agent." I think, however, that chromic acid is hardly likely to become a cheap disinfectant.

"*Bisulphite of Lime*" has been largely used as an antiseptic, but chiefly for the preservation of meat and other kinds of food. It has been highly commended by several chemists.

"*McDougall's Powder*" is a compound of calcium sulphite (sulphite of lime) and carbolate of calcium (carbolate of lime). It is extensively used as a deodorant for sewage, stables, &c.

*Alum, Lime, "Superphosphate of Magnesia,"* and other earthy bodies are, or have been, employed as disinfectants, chiefly in the case of sewage. Alum, and other salts of the earth alumina appear on the whole to yield tolerably satisfactory results as sewage deodorants.

*Charcoal* absorbs noxious gases and vapours into its pores, where they are soon rendered innocuous. Large pieces of charcoal are very useful in the sick room and other places where the air is likely to become impure. In the dairy, where the slightest taint of the air would injure the flavour of the butter, large lumps of charcoal are found to be very useful. Charcoal has been largely used for the purpose of filtering—so to speak—sewage gases; and it is extensively employed in water filters. Animal charcoal is the only kind that should be used in water filters.

*Sanitas* is a proprietary disinfecting material, which, according to Mr. Kingzett, possesses considerable value.

(To be continued.)

## AN ADDRESS UPON THE USE AND ABUSE OF ALCOHOLIC DRINKS.

By WILLIAM BAYARD, M.D. EDIN.

(Continued from page 16.)

Those who value good health, and wish to enjoy the effects of alcoholic drinks socially, will naturally

ask at what time and in what quantity can they be used with impunity? We may answer that, except in sickness, alcohol, in any of its forms, should *never be taken without food*, and preferably at dinner. I wish to impress this precept, as strongly as words can express, upon the minds of all who hear me, believing, as I do, that food is the great antidote to its injurious effects, and that if this rule were adopted we would not see one inebriate for every hundred we see under the present pernicious custom of drinking at all hours of the day and upon an empty stomach. A man meets a friend, to whom he wishes to "do the civil." He asks him to go and have a drink; the friend is not thirsty, but he wants to be "civil"; he goes; they have their glass; they meet other friends at the shop, who also want to be "civil,"—the result is, that many glasses are taken upon an empty stomach that cannot at the time bear one glass. This is not the *use*, it is the *abuse*; and he who so indulges will assuredly, sooner or later, pay the penalty. As to the quantity, it is difficult to lay down any rule: that which would be enough for one would be too much for another. The quantity usually taken at a dinner-party, if habitually taken, would prove injurious. From one to three glasses of claret, sherry, or port, should be the limit. Light wines are preferable; the stronger liquors should never be taken, except in small quantities, and then largely diluted. The pernicious effects of the excessive use of alcoholic liquors upon the human system are so familiar to us all that it is needless for me to recapitulate them. It is sufficient to say that almost every organ of the body participates in the injury, and that the evil is not confined to the "inebriate," but extends to his offspring. There is abundant evidence to prove that it is the most potent cause of insanity. Dr. Howe, in his report to the Legislature of Massachusetts, says that out of 300 idiots 145 were children of drunkards; and we have corroborative evidence of this fact handed down to us from antiquity. Thus Plutarch says, "one drunkard begets another"; and Aristotle remarks that "drunken women bring forth children like unto themselves." A stronger argument in favour of temperance cannot be produced; for he who indulges not only brings misery to himself and those around him, but entails it upon those who follow him. The consequences of intemperance are such as to have commanded the attention of legislative bodies in various parts of the world. In England, Committees of the House of Lords have been repeatedly appointed to investigate the subject. From the report of the last Committee, made in March 1879, we gather a vast amount of information. We learn that "there appears to be a direct relation between the rate of increase of population and the rate of drunkenness, so that, on the whole, where the population is increasing most rapidly, there is the greatest drunken-

ness, the more northern districts being more drunken than the southern; and that intemperance has increased among women. That, as a rule, intemperance is less among the higher class of artisans, and greater among the lowest grades of the community." But this increase of intemperance may in a great measure be attributed to the rapid rise in wages, and to the increased amount of leisure enjoyed by the manufacturing and mining classes. That the cost of the consumption of alcoholic beverages has increased from £2 18s. 6½d. per head of population in 1860, to £4 9s. 0½d. in 1876; though this increase of expenditure cannot be taken as a positive proof that drunkenness has increased in the same ratio, for statistics show that the use of tea, sugar, tobacco, and wine has increased more rapidly than the use of spirits and beer. "This may be partly accounted for by the abolition and reduction of the duties on sugar and tea, and on light wines."

The next question for consideration is, What has legislation done to abate intemperance? and what can it accomplish? Laws upon the Statute Book are useless unless carried out, and to accomplish this object the laws require to have the approval of a large majority of the community, who must feel that he who evades them degrades himself. Now it is idle to expect that laws prohibiting the use of alcoholic beverages will be carried out, while the *importation, manufacture, and possession of them is allowed*, unless the "masses" are brought to the belief that the social use of them is degrading and injurious to health. This belief does not exist, owing to the fact that a very large majority of those who purchase and consume liquor use it in moderation, are never intoxicated, and do not feel that they are injured by it. Legislators, knowing this belief, have directed their minds to the *abuse*, leaving the *use* to be controlled by the proper education and judgment of mankind upon the risks of over-indulgence. The select committee of the House of Lords, before referred to, having considered various schemes for the alteration of the licensing laws, recommended before all others the Gothenburgh system, or a modification of it, by Mr. Chamberlain. The Gothenburgh system directs that no individual, either as proprietor or manager, shall derive any private gain by the sale of spirits. That the whole public-house traffic be transferred to a limited liability company, consisting of the most respectable members of the community, who shall undertake by their charter to conduct the business solely in the interests of temperance and morality, and to pay to the town treasury the whole profit beyond the ordinary rate of interest on the paid-up capital. The capital required for this purpose was £10,000, of which, however, only £7,500 have been paid up, and the annual profits amount to £40,000. The population of Gothenburgh in 1876 was estimated at about

65,000. The number of licenses issued by the new company was reduced from 119 to 56. Of these 18 were transferred to wine merchants for sale off the premises of wines and spirits of the higher class, not "Brånvin," which is the ordinary drink of the working classes, 10 were transferred to hotels, clubs, restaurants, and cafés, 26 to public-houses, and 7 to shops for sale off the premises. The local authorities having the power to fix the hours of closing have prohibited all "Car" business from 6 p.m. on Saturday to 8 a.m. on Monday. This experiment appears to have worked well, from the fact that every town but one in Sweden, having a population exceeding 5,000, adopted it. It is in force in twenty-seven towns having 5,000 inhabitants and upwards, and in nineteen towns of smaller population. Founded upon the Gothenburgh system, a scheme was brought before Parliament in 1877, by Mr. Chamberlain, under which he proposes to work by municipalities, and not by the "Bolag" or company. This scheme would empower town councils to acquire by agreement, or failing agreement, by compulsion, the freehold of licensed premises within their respective districts; and on purchase by agreement the existing interest of present license holders in leases, goodwill, and fixtures. It enables them, if they think fit, to carry on the trade for the convenience and on behalf of the inhabitants, but so that no individual shall have any pecuniary interest in, or derive any profit from, the sale of intoxicating liquors. It gives power to town councils to borrow for this purpose, on the security of the rates, and to carry all profit, after providing for interest and sinking fund, to the credit of the education rate and the poor rate, in equal proportions. In the words of the committee:—

"The advantages expected from the two foregoing schemes are nearly identical."

"The control of the local authority over the issue of licenses."

"A great diminution in the number of public-houses, and an improvement in their convenience, healthiness, and management."

"By the provisions that no individual should derive any profit from the sale of intoxicating drinks, and that the managers should keep a supply of tea, coffee, and other refreshments, it is hoped that the present drinking-houses might gradually assume the character of eating-houses, and workmen's club-places of harmless resort."

"That sound seasoned spirits and light wholesome beer, would be substituted for the deleterious spirits and heavy unwholesome beer strongly charged with alcohol, such as are now often supplied."

As the net results of the change, a diminution in intemperance, a reduction in crime and disorder, and a considerable balance of profit, to be devoted to the relief of local rates.

Objections urged against both schemes by extreme advocates of temperance are :—

"That town councils should not conduct a traffic demoralising and wrong in itself."

"That the temptation of profit might induce the town council to multiply the number and attractions of the drinking-places."

"That the preliminary expense attendant upon the acquisition of such a property would be enormous."

"And that town councils are unfit to conduct so vast a business with economy and care."

I cannot do better than to give the words of the Committee upon these points :—

"We do not wish to undervalue the force of these objections; but if the risks are considerable, so are the expected advantages. And when great communities, deeply sensible of the miseries caused by intemperance, witnesses of the crime and pauperism which directly spring from it, conscious of the contamination to which their younger citizens are exposed, watching with grave anxiety the growth of female intemperance on a scale so vast, and at a rate of progression so rapid as to constitute a new reproach and danger; believing that not only the morality of their citizens, but their commercial prosperity is dependent upon the diminution of these evils; seeing, also, that all that general legislation has been hitherto able to effect has been some improvement in public order, while it has been powerless to produce any perceptible decrease of intemperance,—it would seem somewhat hard, when such communities are willing, at their own cost and hazard, to grapple with the difficulty and undertake their own purification, that the Legislature should refuse to create for them the necessary machinery, or to intrust them with the requisite powers."

"The Committee, therefore, are of opinion that legislative facilities should be afforded for the adoption of these schemes or some modification of them."

In support of this recommendation it may be urged that the present licensing system is defective in every particular, inasmuch as the number of drinking-places far exceeds the demand, creating such competition that the "publican" cannot afford to refuse credit, and must please his customer by giving him liquor at all hours. That the hours of opening and closing public-houses appear to have been adopted to supply the cravings of the "in-ebriate," rather than the wants of the temperate consumer. For I hold that under no possible circumstance is it necessary or beneficial for a healthy person to drink before his dinner-hour; on the contrary, when the appetite craves the stimulus in the morning, the subject is on the road to ruin. Should he be ill, let him obtain it, like other medicine, from an apothecary. If restrictive laws are necessary for

the abatement of the evil—and who can deny it?—the law should be framed so as to meet the object aimed at, instead, as at present, of holding out an inducement and a temptation to the unfortunate victim to indulge his appetite. At the risk of being considered "Utopian," I do not hesitate to urge that *no liquor should be sold for consumption on the premises at an earlier hour than two o'clock in the day, and then only accompanied with food.* And, indeed, I might go further, and urge that it be not sold for consumption on the premises *at any time* without food. It may be argued that he would pay for the food, but not eat it. True; but the expense of the performance would have its influence upon the amount of liquor consumed by him. Stand-up drinking-bars are the curse of the community, and intoxicating drinks should not be sold at grocers' shops. Medical treatment has little effect upon the drunkard while he has the ability to indulge his appetite. But how the law should deal with him is a question of great difficulty. The liberty of the subject must be guarded, and the community justly claim protection from the violence of his acts. There are two classes of "in-ebriates,"—those who voluntarily get drunk, possessing the power to resist, and those who are so far lost that their voluntary power is destroyed. The first should be treated as misdemeanants, the last as maniacs. The voluntary drunkard should be severely punished,—not by fine, which too often deprives his unfortunate family of food, but by imprisonment with hard labour. The involuntary drunkard, if I may so term him, should be *kept in restraint for a period sufficiently long to cure his malady*; how long that should be must depend upon the judgment of those in charge of him. While he may be classed as a lunatic, he is not, strictly speaking, insane. The man who drinks gets sober when the drink is eliminated. The insane man does not recover by such a process. But by continued abstinence the drunkard very often regains the power of self-control, which he cannot accomplish if left without restraint. Hence the imperative necessity for legislative action giving power to confine such persons. Did such power exist, it would have a restraining influence, and give the unfortunate victim a chance of permanent reformation. Voluntary drunkenness is easily defined, but the difficulty of the subject lies in the ability to define what constitutes involuntary drunkenness. There are many shades of drunkenness. At what point is the will so destroyed as to justify restraint? This can only be learned by the history and surroundings of each individual case. And I hold that no individual should be incarcerated without a careful examination and report upon his case by, at least, three disinterested jurors, which report should be on file as a guard against improper restriction.

While I do not pretend to have exhausted this subject, I must close my paper, already, I fear, too

long, with an appeal to all who hear me, and I may say to my professional brethren who do not hear me, in favour of *temperance in the use of alcoholic drinks*. And if anything I have said has the effect of enlisting your interest in the cause, I shall feel that I have not urged in vain.

### REVIEWS.

*Surgery for Dental Students* (W. H. Allen & Co.), by Arthur S. Underwood, M.R.C.S., L.D.S.E., Assistant Surgeon to the Dental Hospital of London.—In the last few years a great change has come over the profession of dentistry, and we now find it protected by a Dental Act of Parliament, which insists upon the applicant for registration being possessed of a licence in dental surgery from one of the royal colleges. The outcome of this wise legislation is the growth of a class of dental practitioners of excellent education, from amongst whom have appeared, from time to time, various well-written works on the theory and practice of dentistry. The book before us is one of these, and by no means an inferior one. The object of the author has been to provide students with a handy manual treating of the surgery of those parts met with in dentistry, and he has been very successful. To all who intend making a study of dental surgery, we recommend this useful manual, as a thoroughly reliable one, concise and practical, and containing an appendix, in which are detailed the various questions put in the recent examinations for the dental licence at the London College of Surgeons.

*Dangers to Health; a Pictorial Guide to Sanitary Defects* (J. & A. Churchill), by T. Pridgin Teale, M.A., M.B. Oxon, F.R.C.S. Eng., Surgeon to the Leeds Infirmary.—We have rarely seen a work which is of such enormous value to the general public as that of Dr. Pridgin Teale, now before us. To speak sufficiently highly of it would be indeed difficult. The illustrations are exceedingly instructive and interesting, and the whole is an honest and clever exposé of the disgraceful system of house drainage so generally prevalent in the country. We do not exaggerate when we say that no man, unless he be an expert in sanitary matters, should think of entering a house as tenant, before carefully studying Dr. Teale's book. If this advice be followed, hundreds of lives may be saved that will otherwise, in all probability, mysteriously perish.

*Medical Education and Practice in All Parts of the World* (J. & A. Churchill), by Herbert Junius Hardwicke, M.D., F.R.C.S., M.R.C.P., Physician to the Sheffield and South Yorkshire Ear and Throat Hospital, and to the Sheffield Public Hospital for Diseases of the Skin; Editor of *The Specialist*.—This book, which extends to 202 closely-printed pages,

with double columns, is undoubtedly the remarkably comprehensive treatise promised by the title. The labour of the undertaking must have been indeed great, and the author must possess a rare knowledge of the subject to be able to condense such a huge mass of information into a single volume of 202 pages. We can strongly recommend the work as being the only complete treatise on the subject. No portion of the whole world has been omitted, and the author is to be congratulated on the very satisfactory result of his eminently difficult task.

*Guide to European Universities*, by the same Author.—This little book is a guide to the medical departments of the various universities in France, Germany, Belgium, Holland, Switzerland, Italy, and Austria. Although not nearly so large and comprehensive as the previous book, it is yet most complete and very much cheaper, and therefore within the reach of all. Those who intend visiting any continental university should first of all read this very useful guide.

*Vox Humana, or the Art of Singing from a Medical Point of View*, by the same Author.—This *multum in parvo* is a remarkably cheap, and thoroughly exhaustive pamphlet; being an abstract of a lecture delivered by the author early in the year. The subject is well dealt with, and contains a large amount of very valuable information.

*Fry's Cocoa Extract*.—We have carefully examined the samples of cocoa extract sent to us by Messrs. J. S. Fry and Sons, of Bristol and London, and have no hesitation in recommending it as a highly nutritious preparation of cocoa. It consists of the "nibs" minus a quantity of superfluous oil, is free from sugar and other ingredients, has a fine flavour, and is most easily digested by delicate and fastidious people. It might, in fact, be called the "invalid's cocoa," so agreeable is it in flavour, and so easily assimilated. We have rarely tasted such a delicious beverage.

*Darlow's Magnetine*.—The value of magnetism in many nervous and other diseases has been long acknowledged; but owing to the difficulty of applying this treatment to many cases, the full benefit to be derived from it has only recently become known. Messrs. Darlow & Co., of 443, Strand, London, recognising the want of a method of utilising magnetism as a remedy, promptly, continuously, and efficiently, have patented an appliance called "Magnetine," which consists of an elastic and flexible composition, prepared by a special process, and spread between two thin layers of india-rubber. This substance is rendered magnetic, and is not only elastic and flexible, but also very light and soft. It may be obtained in the form of belts, knee-caps, &c., and is highly beneficial in many nervous cases, especially in neuralgia and lumbago.

## TRAINED SICK NURSES.

AN Association has been started having for its object the provision of efficient nursing for the sick poor in their own homes, which is a move in the right direction, if properly conducted. Hospital charity (says *The Lancet*) has its legitimate sphere, and it is not expedient that it should be allowed to encourage the poor to seek relief from the burdens of sickness by invariably flying to the hospitals. What has been urged against the cultivation of a confirmed and hereditary habit of recourse to Poor-law relief, on the smallest pretexts, may be urged with equal force and cogency against a system of hospital administration and extension which fosters a habit of sick-hospitalism. We are not, however, equally sure of the other objects which the Metropolitan and National Nursing Association proposes to itself—namely, the raising of the standard of nursing and improvement in the social position of nurses. There can, of course, be no direct objection to raising the standard of nursing, if by that the Association means rendering nurses more obedient to the will of medical men, and less disposed to trust to their assumed knowledge of "treatment," than they have recently shown themselves; but, it must be confessed, we view with suspicion all these movements. Even the Association for the Provision of Aid for the Wounded and the Injured by Street Accidents has begun to "examine" its pupils as to the measures desirable for the treatment of "emergencies," the exanthemata (rash fevers) being included in the list! We stand in dread of elevations of the standard of quasi-medical work. They too often mean elevation to a grade at which the sort of "medical" work done by lay agency becomes ridiculous, if not positively mischievous. Excellence in nursing should consist in implicit and intelligent obedience to the injunctions of the medical man in charge of a case. Again, we have our misgivings as to the policy of making improvement in the social position of nurses an object. If nurses are proficient as skilled servants of physicians in attendance on the sick, their position *will* improve so far as it is desirable that it should do so; but it is difficult to imagine what improvement can be expected beyond that of better pay for better work. The bad old class of nurses satirised by Charles Dickens in his portrait of "Sairey Gamp" has passed away. There is still room for improvement in the manners, and even greater scope as regards the modesty and obedience, of nurses; but we do not think this improvement is to be sought by seeking a better social position for members of the calling. Housekeepers do not find that the measures which have been taken for the social "elevation" of domestic servants have led to substantial improvement in the class of cooks and housemaids. The notion of lady-helps may be

dismissed as absurd, and the class of lady nurses will not be perpetuated. Nurses must always be *servants*, and they cannot safely be permitted to rise above that position in society. The more respectable they are the better, provided always their respectability does not interfere with their obedience. The main object of this Association is commendable in the highest degree, and we wish it every success; but as regards its secondary objects we are not so well assured, and would gladly see them practically subordinated.

## VIVISECTION.

VIVISECTION is a scientific necessity, and inasmuch as it is just as idle to try to stay the progress of science as it is to oppose the rising tide on the sea-shore, the attempt to suppress this particular mode of investigation cannot be ultimately successful. Notwithstanding the assertions made by men with warm and feeling hearts, it is an incontrovertible fact that nearly all we *know* of the living organism in health and disease has been learnt by vivisection, either intentionally performed, or, as the phrase goes, "accidentally" accomplished. Vivisection has been accomplished in all ages and countries, more or less extensively. It is the analytical method applied to the study of organic life, just as the demolition of the earth's crust by the geologist's hammer is the analytical method applied to the study of inorganic nature. The fact that the living animal feels is an untoward contingency, but it cannot qualify the major consideration. The dissection of the dead organism is tributary or complementary, and may well be made preparatory, to the dissection of the living body; but in the long run we must find ourselves face to face with the grim truth that it is the *living* body which science requires, and sternly demands, to explore, and which sooner or later she will explore in spite of all the hindrances which sentiment and humanity may throw in her way. If vivisection is totally abolished in this country, practical physiologists will have to go elsewhere. This is what has, in fact, happened since the passing of the Act limiting vivisection. The most eminent explorers are working on the Continent and in the United States, and the only effect of persecuting them in one place is that they fly to another. It is a little vain-righteous of us to put away the evil—as we think it—with one hand while we eagerly grasp all the good that comes out of it with the other. The great bulk of the information which has enabled physicians to treat diseases with new precision in recent years, and which has already led to the lengthening of many useful lives, is the outcome of vivisection. The "anti-vivisectionist" does not stop to enquire whether the gift by which

he is healed in the hour of sickness, or some other dear to him is snatched from the jaws of death, has been offered to idols! He is wise in his reticence. Now that the heat of the controversy has passed away, those members of our profession who spoke unadvisably in the interests of a crusade against cruelty, must perceive that they over-stated the case when they declared, or admitted, that vivisection was unnecessary. It is indispensable and irrepressible. The aim to minimise the recourse to it was human, the attempt to abolish it altogether is absurd.

### BEDMAKING VERSUS BACK-ACHE.

JAMES TURL, M.D., in *British Medical Journal*, say:—"Let any one, on an ordinarily cool night, when warm in a bed in which he has not been tucked up after getting in, place his hand (still under the bed-clothes) at that part of the edge of the bed which is on a level with the small of his back. He will feel a very cold current of air rushing in to supply the place of that which is being expelled more gently upward (relatively to the head) by the warmth of his body. Children and young people frequently lie two in a bed; and as they almost invariably lie on their sides, and generally with their faces toward each other, for antesonial conversational purposes, the back is often near enough to the edge of the bed for the cold air-current to chill the lumbar muscles, and so to produce in them that temporary rheumatic stiffness and pain in the morning. . . . That the modern system of bed-making (and the disuse of such contrivances as the old fashioned sliding-boards with which our grandmothers pressed down the edges of the bed-clothes) is a very frequent cause—if not, as I believe, by far the most frequent cause—of 'back-ache,' can be proved by the certainty with which protection of the back from cold during the night prevents the recurrence of any trace of the pain. Such protection is best afforded, I think, by a pillow or bolster laid longitudinally at a little distance from the sleeper, between him and the edge of the bed. A 'protector' of wash-leather lined with several layers of flannel, or a small pillow, as Mr. Square suggests, and many other kinds of devices, will no doubt be equally effective in guarding the back from the cold air. All that is necessary—and, as I consider, extremely important—is the diffusion of a knowledge of the fact that in the usual way in which English people are now in the habit of lying in their beds at night, a current of cool air flows with more or less velocity between the edges of their beds and that part of the covering-clothes which they have 'untucked' in the act of getting in. It seems to me to be highly probable that this current of cold air may be responsible, not only for the slight rheumatic

pains now more particularly referred to, but also for many cases of severe lumbago, and even for some forms of acute and chronic nephritis leading to the gravest results. In any case it must be clear that though a regular replacement of the air round any person in bed is of course essentially necessary for health, that replacement should not be kept up by a current which impinges upon any one part of the body, especially so important a part as the lumbar region; further, that this air-current should be particularly guarded against in the case of persons who are weakly, and on that account both more liable to chill, and more likely to 'sleep warm,' thereby increasing the velocity of the cold draught. Coldness of the feet, and its results, want of sleep and headache, are also frequently dependent on the clothes not being properly turned under at the foot of the bed."

### OMNIBUSES AS DISTRIBUTORS OF DISEASES.

THERE can be little doubt that the ordinary omnibus plays a considerable part in the spread of diseases, not alone of the maladies popularly recognised as "catching," but of those nameless illnesses which constitute the bulk of personal and family sickness. Within a compartment measuring less in capacity than would be allowed per head for the inmates of the worst arranged of hospitals, say barely over 800 cubic feet, without any through ventilation in the direction in which the vehicle travels, are crowded some dozen persons, who respire each other's carbonised and often fetid breath, to a degree and with a directness not experienced under any other circumstances. How real the evil is may be inferred from the indications given when a particularly unhealthy or uncleanly person enters the conveyance. It is impossible that diseases should not be distributed in this way. Those who have occasion to travel frequently in omnibuses, and who are, so to say, acclimatised, may not notice the nuisance of foul air or the injurious emanations by which these vehicles are infected; but they exist, and produce their full crop of consequences. Some years ago complaints were rife as to the ventilation of omnibuses, and while the windows were fixed, ventilators were provided in the front under the driver's seat and in the roof. These contrivances do not and cannot remove the annoyance and danger to which we allude, and which inevitably result from placing persons face to face in a narrow vehicle. It would probably necessitate an increase of something like fifteen inches or two feet to the outside measurement of the ordinary omnibus, if it were constructed so that the passengers sat back to back, but the gain in comfort, and indirectly in health, would be very great. Until



some change of this nature is made, the delicate or susceptible should avoid these conveyances, which, in a peculiar sense, are distributors of diseases. No remedy is likely to be satisfactory which does not consist in the reconstruction of our English omnibuses, so as to place them on a level with open carriages, such as the covered, but not close, brakes and cars met with on the Continent and in a few of our own provincial towns. An "American Tourist" has written to one of the daily newspapers to throw out the hint that "at home" in his own free country "every window nailed fast would be 'smashed' in a twinkling." We are bound to express the hope that there will be no omnibus-window smashing here. The elbow argument in favour of fresh air was all very well in the old coaching days, but we are more civilised and urbane in our manners now. Nevertheless, something ought to be done in the matter. It is intolerable that our public conveyances should be public nuisances, and worse, because the companies will not reform.—*Lancet*.

#### "SMELLS."

It is an effort of politeness to designate the putrescent dusts and vapours that pervade the streets of London at this season as "smells." They are palpable clouds of dried or half-desiccated *débris* and products of crude decompositions. It is too commonly forgotten that odours are not mere sensations, though the sense of smell is the faculty by which we become aware of their presence. Whenever a "smell" is perceptible, particles of the substance or substances are floating in the atmosphere, and have passed directly into our breathing passages. A close and fetid *smell* is a finely divided dust or spray composed of the emanations from whatever makes the atmosphere close and fetid. The same physical fact holds good of all odours, whether they be nice or nasty. The reflection is not an agreeable one, but it is politic to speak the truth. Whether the "smell" be that of a close room, a dustbin, or a slaughter-house, we actually take into our air-chambers, and receive in close contact with their lining membranes, material particles which have become detached from the person, clothes, or foul matters of any sort or description which we "smell." Nothing is gained by mixing some other smell with that which is offensive. The only way to deal with a nuisance of this class effectually is to lay the dust and wash it away, or to apply what is called a *disinfectant*—that is, something which will chemically destroy the offensive and injurious dust or vapour. It would scarcely be too much to say that very few of the so-called disinfectants, and hardly any of the deodorants, have any real effect on the "smell" properly so called. They cheat those who use them into the

belief that they are doing away with the nuisance, whereas they only disguise it, substituting one sensory impression for another, but leaving the physical, and therefore the injurious, condition unchanged. If the public are wise, they will not be misled by the plausible testimonials and laudatory recommendations by which most "disinfectants" are supported, but test the actual chemical action of the smell-destroying agencies to which they resort, or put themselves to the trouble of obtaining a trustworthy and explicit scientific opinion. It is impossible to be too particular about "smells," and difficult to see with what pretence of care for health they can be systematically disregarded.—*Lancet*.

THE FLAVOUR OF MEAT.—M. Monclar, a noted agriculturist in France, has suggested a singular plan for varying the flavour of meat. He imagines that by feeding cattle, sheep, pigs, and poultry in a particular way, or rather by flavouring their food in various ways, their flesh may be rendered much more agreeable to the palate than it often is; and there can be no doubt that he is substantially right. Thus, for instance, it is well known that poultry which have been fattened upon food containing a slight admixture of chopped truffles are far better eating than those chickens which have been stuffed or larded with truffles after they are killed. It is only natural that such should be the case, for the flavour of the truffle that is consumed by the chicken permeates the whole system, which it cannot do when simply placed in the carcase. M. Monclar instances cases in which hares killed in a wormwood field, larks shot in a cabbage-field, and eggs laid by hens that had eaten diseased silk-worms, had such a nauseous taste that no one could touch them; while, on the other hand, some ducks and field-fares which had fed on sprigs of juniper had a delicious flavour. He has made several experiments—among others, three upon tame rabbits, which he fed with the waste of anise-seed, with barley and bran containing a slight flavouring of juniper, and with barley and bran containing a little essence of thyme. In each case he found that the flesh of these animals was far better eating than that of rabbits fattened in the ordinary way, and yet that there was no trace of anise-seed or juniper in the taste. His conclusion is that cattle, sheep, and pigs might be fed in the same way, and that by varying the flavouring matter the beef, mutton, and pork might be made to have several different tastes. The miserable flavour of swill-fattened beef, the fishy flavour of hogs that have fed on fish, and the same flavour in the eggs of many water-fowls are demonstrations of the above. The delicacy of the canvas-back duck is due to its wild-celery food, and onions give their flavour to fowls' flesh as they do to cow's milk.



**THE INTERNATIONAL MEDICAL AND SANITARY EXHIBITION.**—In our last number we gave a list of a number of the exhibits at this exhibition, and we now propose to notice a number more, which, owing to want of space, we were unable to include in the last report.

Messrs. J. F. Farwig & Co., 86, Queen Street, exhibited an excellent slow combustion stove for anthracite coal or coke, which will burn for twelve hours without any attention, at the small cost of a penny.

The London Necropolis Company, Lancaster Place, Strand, exhibited some specimens of earth-to-earth coffins, which possess strength, solidity, and good appearance, at the same time that they rapidly become dissolved in the ground, thus allowing the earth to act in a proper manner upon the decomposed elements of bodies. The system of the Necropolis Company is well suited to overcome the many objections to our present mode of burial.

The Eureka Concrete Company, 52, Queen Victoria Street, exhibited concrete, which was remarkable for its hardness and durability, and of much less cost than stone or asphalt. It is fire-proof, and can be made in any colour.

Messrs. Corbyn, Stacey & Co., 800, High Holborn, exhibited their Lactose, which is a good substitute for pure human milk; also Valentine's preparation of meat-juice; and Pepsin-Essenz, a very good preparation.

Mr. E. Gallais, 27, Margaret Street, W., exhibited the St. Galmier Alkaline Water, which is anti-dyspeptic, and has not the soapy taste of many mineral waters; also the St. Raphael Wine, an excellent tonic, containing tannin.

Kopf's Extract of Meat and Compressed Food Company showed extracts of beef, tea, coffee and cocoa, dietetic biscuits, and consolidated soups.

The Sanitas Company, Bethnal Green, showed a good assortment of disinfectant and antiseptic articles. Their Sanitas Disinfecting Oil is a very powerful disinfectant and very useful in hospitals and private houses.

Mr. Eugene Rimmel, Strand, exhibited perfume vaporisers, carbolic-acid soap, coal-tar soap, and an aromatic ozoniser composed of sawdust of various odoriferous trees, for disinfecting purposes.

Mr. Pulvermacher, Regent Street, exhibited his galvanic and electric machines and appliances, such as chain-bands, belts, &c., all most useful articles.

The Maltine Manufacturing Company, Great Russell Street, exhibited a number of preparations made from barley, wheat, and oats. Their Maltine with Beef and Iron is specially worthy of notice, as is also their Maltine and Cod-liver Oil.

Messrs. Savory and Moore, New Bond Street, showed a medicated gelatine, comprising lamels for internal use, and discs of ophthalmic and hypoder-

mic remedies. Also a disinfectant vaporiser which perfumed the whole gallery.

The Newry Water Company had a great display of beverages, including champagne ginger ale, an excellent drink, and bright, clear, and sparkling.

Messrs. Gulliver & Co., Aylesbury, exhibited a very agreeable ginger ale, which found much favour.

Gerolstein Natural Mineral Water Company, Philpot Lane, showed a most palatable water, which is said to alleviate sea-sickness and dyspepsia, and to be a fine stimulant.

Messrs. Packham & Co., Croydon, showed their well-known Hedozone, a non-alcoholic refreshing nerve-tonic, unusually agreeable to the taste.

Messrs. James Allen and Son, Marylebone Lane, W., showed a large assortment of portable hot-air vapour baths, ventilating, croup, and bronchitis kettles, portable Turkish baths, and throat sprays, all very ingeniously contrived and very useful.

**DRAINAGE OF NEWBURY.**—The small town of Newbury is determined to be well sanitated. It appears that a short time since the Town Council of that community of wise people commissioned a number of their fellows to make a report on the best mode of disposing of the sewage of the town, and with that object the committee visited Abingdon, Aylesbury, Banbury, and Taunton, to examine the mode of disposal recently adopted in those towns. After careful consideration, the Council determined to adopt the system in vogue at Taunton. This is known as the "Sodium Process," and consists of dealing with the sewage which runs into tanks so as to separate it as rapidly as possible into its solid and liquid forms. The genuineness of this process, the success attending its adoption by the Taunton Council, and the economical manner in which it is worked, induced the Newbury Council to try it; and Salisbury and other towns are about to follow their example. No time has been lost, for we find the work already advancing in the town of Newbury. The Corporation, as soon as they decided upon their line of action, advertised for plans upon the basis of the adopted process, and received in reply upwards of fifty sets of designs from some of the leading drainage engineers in the country. The successful candidate, Mr. H. Osborne Baldry, in conjunction with another engineer, lost no time in commencing operations, and is now busily engaged in carrying out his design. During the process the sewage runs into the large receiving tank, capable of holding several hours' flow (if night-pumping be adopted, this tank is unnecessary), and then receives the deodorizing mixture, which consists as follows:—Spent lime, 8 cwt.; quick lime, 2½ cwt.; coarse salt, 1½ cwt.; and carbolic acid, 8 quarts. These constituents are slowly incorporated with 2,800 gallons of river water

in circular mixing vats, and then allowed to mingle with the sewage in the proportion of 1 to 250. The mixture of chemicals and sewage then passes into depositing tanks, flowing from one to the other over weirs. These tanks are in duplicate, and the precipitated part of the sewage (sludge) is removed from one set while the other is in use. The "sludge" is then partially dried in sheds in the open air, and afterwards sold. The analysis of the effluent water proves it to be well within the limits of impurity, as defined by the Rivers Pollution Commissioners; but, in addition to this, the Newbury Corporation have decided that the effluent shall be purified more fully by passing it through land by "downward filtration." Three acres of land (open soil) will be laid out for this purpose, which is ample for the population of 12,000 inhabitants. This defecating system is particularly advantageous on account of the smallness of its working expenses, which amount to about 8s. 6d. for treating every 500,000 gallons. We commend the Newbury Corporation for its promptness and wise determination, and can only express the hope that other towns may quickly follow in its wake, and congratulate the committee on having secured the valuable services of so able an engineer as Mr. Osborne Baldry. With such an inexpensive system as this at hand, it will be a crying shame if other towns do not at once protect the lives of their populations by proper sanitary measures. As a rule, small towns are shockingly sanitated.

**THE RELIGIOUS ASPECT OF THE CONTAGIOUS DISEASES ACT.**—*The Church of England Pulpit*, an influential representative of Religious journalism, has lately spoken out honestly against the goody-goody antagonism to the Contagious Diseases Acts. "The Acts," it says, "are designed solely to prevent a most fearful contagious disease, which besides breaking up the health of the patient himself, is always passed on to a future innocent wife and children, as well as to the children's children for several generations. These Acts have been most successful in preventing a terrible disease, and we cannot, after a most careful consideration of all the evidence that has been adduced, see anything unjust, immoral, or unscriptural in their provisions. Their main provision is that women in the scheduled districts, who make a trade of prostitution, are not allowed to carry on such a trade whilst they are in a state of disease, which they are sure to communicate to others; but are to be sent into hospital and treated at the public expense until they are cured. This is an interference with personal liberty, but not greater than that to which thousands of the poor who contract small-pox are subjected. The trade is also interfered with, but not one whit more than any other dangerous trade. In fact, the great moral advantage of this

legislation is that it restricts and discourages prostitution. We should be glad to see the Acts extended to all large towns."

**THUMB-SUCKING.**—In a paper read at the American Medical Association, Dr. Goodwillie, of New York, concluded—1. Thumb-sucking is more disastrous to the health of the child than the sucking of the other fingers, for, once in the mouth, it more readily remains there during sleep. 2. It interferes with the child's proper rest, which should be continuous and undisturbed, and so becomes a source of nervous irritation and exhaustion. 3. It interferes with the natural respiration through the nose, and sets up abnormal conditions. 4. It malforms the anterior part of the mouth, and affects proper mastication. The treatment consists in breaking off the habit by applying a leather pad to the elbow, preventing the hand from coming to the mouth.

**DUST-BINS.**—A dust-bin need not be offensive, although it too often is. No vegetable or animal matter should be put into it. It will then contain nothing to decay. All refuse of either kind should be burnt. Or, supersede the dust-bin by a dust-box. It could be emptied into the dust-cart every morning—a system which we believe is in use in Edinburgh, and probably one of the most effectual for preventing all accumulation of noxious matters. The daily trouble involved by this plan should not be considered against the advantage obtained by it.

**ANOTHER VICTIM TO VANITY.**—A fashionable lady of Rochester, N.Y., died recently from lead-poisoning by the use of cosmetics. The newspapers comment upon her fortitude during years of suffering, and strange enough, her physician denounces them for giving publicity to the case.

**QUACKS IN JAPAN.**—There are, it appears (says the *Japan Weekly Mail*), no less than 65,200 doctors practising in Japan, of whom 504 only have received legitimate diplomas, and of these latter 50 are denizens of Tokiyo. It follows, therefore, that there are 64,696 individuals playing fast and loose with the lives of their fellow-creatures throughout the country—that is to say, an average of one quack to 470 quacked.

**JERRY-BUILDING: THREATENING A SURVEYOR.**—A builder of Willesden has been charged at the Edgware Petty Sessions by the Willesden Local Board with contravening their bye-laws by neglecting to put in concrete foundations, using macadam slop in lieu of mortar, and rotten bricks, in the construction of certain houses being erected in the Melville Road, Harlesden. The evidence was to the effect that the notice of the Local Board had

been totally disregarded, and the buildings were disgraceful, and would be unfit for habitation. The mortar in the walls smelt offensively, and contained 8½ per cent. of organic matter, animal and vegetable. The defendant was fined £10. The defendant was then charged with using threatening language towards the Surveyor to the Willesden Local Board, who had given evidence in the previous case, which Dr. Danford Thomas, the Medical Officer, corroborated. The defendant was also fined 20s., and ordered to find two sureties of £25 each to keep the peace.

**SPECIALISTS.**—Sir James Paget, in his address to the members of the International Medical Congress in London, in August last, spoke strongly upon the question of specialism, and held that although the average mental power constantly increases in the successive generations of all well-trained peoples, yet it does not increase so fast as knowledge does, and thus, in every science, as well as in that of medicine, a small portion of the whole sum of knowledge has become as much as even a large mind can hold and duly cultivate. He then remarked as follows:—"Many of us must, for practical life, have a fair acquaintance with many parts of our science, but none can hold it all; and for complete knowledge, or for research, or for safely thinking out beyond what is known, no one can hope for success unless by limiting himself within the few divisions of the science for which, by nature or by education, he is best fitted. Thus our division into sections is only an instance of that division of labour which in every prosperous nation we see in every field of active life, and which is always justified by more work better done." Probably few will think of disagreeing on this point with the learned baronet. The tendency towards specialism which is so rapidly gaining impetus year by year is one of the best signs of the times, pointing, as it does, to a future of real, honest, and thorough work done by physicians. We cannot deprecate too strongly that insane thirst for more patients exhibited by many medical men, who care not what happens to their patients if only they can secure a daily visiting list of fifty or sixty, to be "rushed through" at low charges, with plenty of "stuff" for the money, and to the ultimate pecuniary profit of the doctor. We should advise the sufferer to apply for relief to the physician who is content with a small practice, and not to the one who may be seen daily rushing through the streets in a gaudy carriage; and, if practicable, to secure the services of a specialist. We hope to write more fully on this important subject before long.

**TEACHER:** "Why did Moses' mother hide him among the reeds?" **Pupil:** Because she didn't want to have him vaccinated."

## NOTICE.

All letters and other communications for the Editor should be addressed to him at the Publishing Office, and, if for publication, should be written legibly, and on one side of the sheet only. Communications relating to subscriptions and advertisements should be addressed to the Publishers.

No notice will be taken of anonymous communications unless authenticated by the name and address of the author, which need not necessarily be published.

The following books, pamphlets, &c., have been received:—*Dangers to Health*, by T. Priggin Teale, M.A., M.B., F.R.C.S. (J. & A. Churchill). *Medical Education and Practice in All Parts of the World*, by Herbert Junius Hardwicke, M.D., F.R.C.S., M.R.C.P. (J. & A. Churchill). *Vox Humana*, by the same Author. *Guide to European Universities*, by the same Author. *Brain and Stomach; or, Mind and Matter*, by Watson Bradshaw, L.R.C.P., M.R.C.S. (H. Vickers). *Health Studies*, by H. Sinclair Paterson, M.D. (Hodder & Stoughton). *The Human Body and its Functions*, by the same Author. *Gout and Rheumatic Gout*, by John W. Foakes, M.D. (Simpkin, Marshall & Co.). *A Long and Healthy Life*, by Dr. Graham (J. Williams, Aberdeen). *Surgical Uses of the Strong Elastic Bandage*, by Henry A. Martin, M.D. (Kronke & Besemann). *Ambulance Lectures*, by Lionel A. Weatherly, M.D. (Griffith and Farran). *The Tender Toes; Essays on Gout*, by William Lomas, M.D., M.R.C.P. (Effingham Wilson, London). *Vaccination*, by P. A. Taylor, M.P. (E. W. Allen, London). *The Medical Temperance Journal*, vol. xii. 1881.

## CORRESPONDENCE.

To the Editor of THE FAMILY DOCTOR.

**SIR,**—Can you tell me what is the precise object of the London Cremation Society, especially with regard to interment of corpses?

Yours truly,  
ENQUIRENS.

[The London Cremation Society was constituted on the basis of the following declaration:—"We disapprove the present custom of burying the dead, and desire to substitute some mode which shall rapidly resolve the body into its component elements by a process which cannot offend the living and shall render the remains absolutely innocuous. Until some better method is devised, we desire to adopt that usually known as cremation."—ED.]

To the Editor of THE FAMILY DOCTOR.

**SIR,**—I am a working man in a foundry, receiving an average wage of twenty-two shillings a week. My family, with self and wife, numbers six. My doctor (a local one) sent me in a bill lately for attendance on my wife, which consisted in three visits (half a mile distance) and three bottles of medicine; the amount being one guinea. Am I overcharged or not? I think I am, but would like your opinion.

Sir, yours truly,  
FURNACE.

[We think that you were overcharged under the circumstances, and are of opinion that a mistake has been made. Name it to your doctor. Respectable medical men do not charge for the amount of medicine supplied. Five shillings for each visit and advice would be a very good charge to a man in your position. Most general practitioners would be satisfied with 8s. 6d. or 4s.—ED.]

**Mr. W. Beesley.**—The proper person to apply to is the Registrar of Births, Deaths, and Marriages for your district.

**Mrs. Delaney.**—Yes. The authorities will probably see that it is better sanitated before next season. We shall call attention to it before long if they do not.

**W. P. L.**—Your question is too vague. Write again more fully.

**D. R. T.**—Certainly not.

**W. M.**—Torquay, Bournemouth, or Southport.

**T. M. D.** and *Jarrow* have omitted to enclose their cards.

## NOTICE.

The Journal will be supplied post free, each month, for one year, on receipt of P.O.O. for 3s. 6d., made payable to the Publishers, Messrs. W. H. Allen & Co., 13, Waterloo Place, London, S.W., at the Charles Street, Haymarket, Post Office.

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## THE FAMILY DOCTOR.

## THE PREVENTION OF CONTAGIOUS DISEASES.

By C. A. CAMERON, M.D., Ph.D., Sanit. Sci. Certif., F.R.C.S., M.K.Q.C.P., &c. Professor of Hygiene and Chemistry at the Royal College of Surgeons in Ireland.

(Continued from page 27.)

ON DISINFECTION.—*Hygiene of the Sick Room.*—The atmosphere of a room in which a patient lies cannot be subjected to the influence of such disinfectants as sulphurous acid or chlorine. Abundance of fresh air should be admitted—in fact, too much attention could hardly be paid to the ventilation of the apartment, and it should be provided with a fire-place. The larger the room is, the better for both patients and attendants. Light should, unless under very peculiar circumstances, be freely admitted. Solution of chloralum or permanganate of potash should be placed in large saucers. The dejecta and saliva of the patient should be instantly covered with a strong solution of bluestone, chloralum, or carbolic acid; and they should be speedily conveyed from the room. Slops of any kind ought to be promptly removed. The less furniture (consistent with comfort) the room contains the better. Window and bed curtains, carpets, and table-cloths should not be tolerated. The linen which has been removed from the patient is best placed in a tub containing chloralum. In a house where there are several inmates, it is well to hang a sheet moistened with chloralum, &c. outside the door of the sick room. Instead of ordinary handkerchiefs, the patient might use rags, and these should be placed in a basin, and covered with disinfecting solution. The attendants should place themselves in such a way that the air entering the apartment would pass from them towards the patient. The less communication held between the inmates of the sick room and those of the other

apartments (who are obliged to remain in the house) the better. Should the patient die, the body should be isolated, and interred as speedily as decency admits of.

*Disinfection of the Empty Room.*—After the removal of the patient, the room should be thoroughly cleansed, disinfected, and aired. All the furniture which admits of it should be washed with strong chloralum solution and removed to an empty room. The apartment being completely denuded of its furniture, the process of purification may be effectively performed in the following manner:—Wash the floor and woodwork with water and (preferably carbolic acid) soap. Remove the wall paper, first washing it with solution of chloralum or other disinfecting agent, so as to protect the workmen. Close up all openings except the door; and having generated a sufficient quantity of a powerful disinfectant, instantly retire and close the door.\* After twenty-four hours the door and windows are to be thrown open, and in a few days the room is ready to be repapered and its ceiling whitened.

The quantity of disinfectant used should be proportionate to the size of the room. If it contain 2,000 cubic feet of space, it would require the combustion of about 27 pounds of sulphur to convert all the oxygen of the air into sulphurous acid, and even then only one-fifth of the space in the room would be occupied with sulphurous acid (fumes of burning sulphur). I do not think that less than 4 pounds of sulphur would produce sufficient fumes wherewith adequately to disinfect a room containing 2,000 cubic feet.† Chlorine is, in my opinion, a much more powerful disinfectant than sulphurous acid. For a room, such as that above described, it would be necessary to employ the gas evolved from a mixture of 2½ pounds of alum cake and 8 pounds of chloride of lime, or (but mixed with hypochlorous acid) of 3 pounds of bleaching powder and 1 pound of oil of vitriol, diluted (previously) with four times its volume of water.

The sulphur is best burnt in one or more earthenware pipkins, containing a few red-hot coals, and placed upon flags, slates, or over water, so as to avoid accident from fire. In liberating the chlorine the greatest care must be taken, especially when oil of vitriol is employed. The oil of vitriol should be diluted in an earthenware vessel, which is capable of withstanding the heat evolved from the mixture. The bleaching powder is best placed in a crock, or large baking-dish, and the diluted acid poured into the latter. As a copious disengagement of gas of a most irritating and poisonous nature takes place

\* When much chlorine gas is generated the chimney should not be wholly closed.

† The cubic space is determined by multiplying the length of the room by the width, and the resulting number by the height of the room. For example, 15 × 20 × 10 = 3,000.

the instant the acid comes into contact with the powder, the operator must effect a precipitate retreat from the room, instantly closing the door after him. Whilst working a muffler should be kept over the mouth and nose. To disinfect with nitrous fumes, mix 1 pint of commercial nitric acid with an equal quantity of water, and pour the diluted acid upon  $\frac{1}{2}$  a pound of copper turnings. If copper filings be used, the disengagement of the fumes takes place very rapidly. A room may be disinfected by means of liquids; but in such case the purifier must be applied in the form of spray, which cannot, in all cases, be readily accomplished.

*Disinfection of Clothing.*—Clothes that are not injured by being washed may be disinfected by prolonged steeping in solutions of chloralum (half a pint of the commercial solution to a gallon of water) or chloride of lime (6 ozs. to the gallon). Coloured fabrics are injured by chloride of lime, and uncoloured linen and calico articles cannot be left long in its solution without being more or less injured. If Condy's solution be used, merely thoroughly immerse the linen in it, and speedily rinse out in cold water; for if the article be left too long in this solution it is liable to become stained. Air heated to from 260 degs. to 300 degs. Fahrenheit is undoubtedly the best disinfecting agent for clothing and bedding, as it does not in the slightest degree injure the articles, whilst it is as effective as the most powerful of the ordinary disinfectants. An oven cautiously heated may be employed, the articles being kept in the heated air for a couple of hours at least. The Corporation of Dublin have constructed a hot-air disinfecting chamber at a cost of £400. Anyone may have their tainted clothing disinfected in it without any charge, and it is now much used by the citizens.

The walls and ceiling of the compartment in which the clothes are heated are built of brick, and its floor is composed of perforated iron plate. The heat is radiated into the compartment from the exterior surface of a coil of iron pipe, 80 feet long, and which acts as part of the furnace flue. The products of the combustion which takes place in the furnace escape into the atmosphere, without previously mixing with the air contained in the close chamber; no emanations from the infected clothes can pass into the atmosphere, and, consequently, no one need feel alarmed at the close propinquity of the apparatus.

*Sewage Disinfection.*—Solution of carbolic acid, or of some such metallic salt as copperas, should occasionally be poured into the sinks, and all other places leading to the sewer. The ash-pit, or midden, is benefited by the occasional sprinkling of a disinfecting liquid. If there be a cistern of water devoted exclusively to the W. C., pour into it daily a wineglass-full of chloralum, or carbolic acid solution. Five

pounds of sulphate of iron, or one pint of carbolic acid are sufficient quantities to add to five gallons of water: if the sewers be very offensive, somewhat stronger solutions may be applied; whilst for watering streets the solution may be ten times weaker.

For manure heaps and liquid manure, chlorine and chloride of lime are very unsuitable, whilst charcoal, alum, or chloralum, are suitable applications. If the manure be quite fresh, quick-lime is a good preservative, but this substance acts unfavourably on stale manure. One pound of freshly burnt quick-lime is sufficient for 100 gallons of fresh liquid manure, and it will preserve its fertilising qualities for a long time.

*ON VACCINATION.*—One of the most fatal and loathsome diseases which afflict mankind is Small-pox, or *Variola*. Formerly this disease was very prevalent in the United Kingdom, but of late years its ravages have been greatly lessened by vaccination. The discovery of the wonderful protective property of vaccination is due to the distinguished English physician, Jenner, who established the fact in the year 1796. When persons recover from small-pox, scarlatina, or any similar complaint, they enjoy, for the rest of their lives, almost complete immunity from further attacks. It is quite possible that a person who has had small-pox might again become affected with the complaint, but a second attack of the same malady is an extremely rare event. There are some diseases of the human species which have a close affinity to maladies affecting the lower animals. The disease termed cow-pock resembles human variola, and it may be easily communicated to man. What is termed inoculation (in speaking of small-pox) is the introduction beneath the skin of matter taken from a small-pox pustule. Inoculation was long employed for the purpose of producing a mild attack of small-pox; but this so-called protective measure\* has now been superseded by vaccination, or the introduction of matter (lymph) from the vesicles produced in the heifer whilst affected by bovine small-pox. The disease induced by the introduction of cow-pock lymph beneath the skin of a human being is termed *vaccinia*, and it is a very mild one, death rarely resulting from it. When once we have had a genuine attack of *vaccinia*, we are nearly as unlikely to die from small-pox as if we had already suffered from the latter disease.

Many persons do not believe in the protective influence of vaccination; but the evidence in its favour is too clear to be refuted. The whole body of physicians, with extremely few exceptions, are in favour of vaccination.

\* Small-pox inoculation is prohibited by law, and anyone who practises it is liable to be prosecuted. It is still surreptitiously practised by ignorant quacks, by whom small-pox poison is, it is to be feared, widely spread in many countries.

According to some authorities, an unvaccinated person is more than twenty times more liable to catch small-pox than a vaccinated person; and in a report of the London Small-pox and Vaccination Hospital, it is stated that vaccination reduces the mortality from small-pox from 85 per cent., or even a higher rate, to 1 per cent. I have no doubt but that the protective effects of vaccination are not so great as some writers maintain; but I believe the operation greatly lessens the chance of catching small-pox, and that, but to a far greater extent, it prevents the disease assuming a malignant type when it is contracted. When small-pox occurs in the case of a vaccinated person it is termed *post vaccinal*, or *modified small-pox*.

During recent epidemics of small-pox in London, it was found that the mortality of small-pox patients who had not been vaccinated amounted to from 85 to 44 per cent., whilst the deaths amongst the patients who had been vaccinated varied from 4 to 9 per cent. The vaccinated patients included all who had vaccine scars, but some of these were very slight, and the mortality amongst the vaccinated patients was almost completely confined to those who had imperfect marks.

In vaccinating, the following rules should be observed:—Vaccinate, if possible, from arm to arm; be careful not to draw blood with the lymph; make four distinct scars, or punctures, when vaccinating; lymph should not be taken from those who have been re-vaccinated; healthy children, whose families are free from taint, should be selected as sources of lymph.

Medical opinion is divided on the subject of re-vaccination; but the majority of physicians believe that it is necessary. Some physicians are of opinion that re-vaccination is desirable every ten or fifteen years. My own impression is that the vaccine influence gradually declines, and that every adult should be re-vaccinated once at least. Cases of small-pox amongst re-vaccinated persons are of extremely rare occurrence. It should be observed that the symptoms of vaccinia are generally more severe when the patient is an adult.

In some parts of the Continent it is the practice to vaccinate directly from the heifer, and some English physicians have recommended this method for general adoption in these countries. Vaccinia has, however, become a human malady, and its virus loses none of its properties in passing from individual to individual. The distinguished sanitarian, Dr. Simon, lately the medical officer of the Privy Council, is strongly opposed to vaccination from the heifer; still eminent authorities rather favour the practice.

It is alleged against vaccination that it is often the means of transmitting consumption, scrofula, and other diseases. It would, indeed, be most foolish were we to neglect vaccination on the ground that

the vaccine lymph might be a possible carrier of the virus of disease. Such an accident does not probably occur even once in a hundred thousand cases.

(To be continued.)

## THE HUMAN VOICE IN SINGING AND SPEAKING.

By H. J. HARDWICKE, M.D., F.R.C.S., M.R.C.P., &c.  
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The immense value of the voice as a means of livelihood, and also as a source of pleasure, cannot be over-estimated, and therefore it seems hardly credible that where this value is recognised fully, the greatest indifference is often paid to the acquirement and cultivation of it. Such is, nevertheless, the fact. Vocalists, clergymen, barristers, and public speakers, who are called upon frequently to use their voices for a length of time, are wonderfully careless about them, so much so that it is no uncommon occurrence for such to be entirely incapacitated for a while, and sometimes even with a fair chance of permanent disability. This may be the result of one of two causes, either overstrain from incapacity, due to want of proper cultivation and practice, or else congestive, inflammatory, or other mischief in the throat or larynx, the result of want of ordinary care in the preservation of the voice. I will endeavour to point out as concisely as possible how the voice may be rendered valuable for singing and elocutionary purposes, and, also, the mode by which, when perfected, it may be preserved. It will be necessary to take a cursory glance at the vocal apparatus, in order to properly understand the subject, and in giving a description of this apparatus I shall avoid technicalities as much as I can, and wherever I do use them will explain their meaning. The vocal apparatus consists of five separate parts, viz.—1. The lungs, or vocal bellows, containing air, which is called the motor element of voice. They are two in number, and situated one on each side of the chest, separated from each other by the heart, gullet, &c. Each lung is pyramidal in shape, with the apex upwards, and consists of a spongy substance, called parenchyma, inflated with air, which is conveyed to and from the lungs by means of the windpipe, or trachea, by inspiration and expiration, each succeeding the other in regular rhythmic manner, like the pulsations of the heart. During inspiration the lungs are inflated and the chest walls consequently expanded, and during expiration the lungs are emptied of air and the chest walls are contracted. 2. The trachea, or windpipe, is a tube which passes from, and is, in fact, a con-

tinuation of the larynx, or voice-cavity, and after reaching the cavity of the chest, bifurcates into the right and left bronchi, which enter respectively the right and left lungs and again subdivide into innumerable smaller tubes called bronchial tubes, which ramify in all parts of the lungs and terminate in little air-cells. 3. The larynx, or voice-cavity, is situated in the front of the neck, and is composed of nine cartilages, connected together by membranous and ligamentous bands, and moved about by a number of small muscles. It is funnel-shaped, being continuous with the trachea inferiorly, and closed by a valve-like lid, called the epiglottis, superiorly, which lid closes the cavity of the larynx during the act of deglutition, and thus prevents morsels of food, &c. passing through, or, as it is called, "crumbs going the wrong way," but opens the cavity during respiration and articulation. The large cartilage in front of the larynx is called the thyroid cartilage, from the resemblance to a shield (thureos—a shield), and often goes by the name of "Adam's apple." This cartilage forms the two front sides of the triangle of the larynx, the third side at the back forming the front wall of the œsophagus, or gullet, which passes immediately behind the larynx. From the inner side of the "Adam's apple," are attached two delicate elastic fibrous cords or bands, which stretch across the middle of the cavity of the larynx from before backwards, and are attached to two small slender cartilages situated in the third or posterior side of the larynx. These bands are called the "vocal cords," and are the essential parts of voice. 4. The pharynx, or sounding board, occupies the back part of the throat, and is situated at the top of the gullet and larynx, and at the back of the mouth, having at the forepart of its summit the posterior nasal orifices. 5. The mouth, or articulating cavity is situated between the teeth and pharynx, and separated by the palate from the nasal passages. The following is the mode in which sound is produced. The air is breathed first of all into the lungs, which, of course, become greatly expanded as they are inflated, after which it is forcibly expired again, passing rapidly through the trachea and between the vocal cords, causing the latter to vibrate, and thus emit sound. The pitch, tone, volume, and quality of the sound emitted depend partly upon the force with which the air is propelled, and the consequent rapidity of the vibrations of the vocal cords, and partly upon the variation of the pharynx. The main point to be attended to in voice production is the rapid and complete inflation of the lungs with air and the economising of the air as it is expelled again from the lungs. There are two kinds of breathing, viz. abdominal and thoracic. In the former, the lungs are forced downwards against the diaphragm, which is a large muscle dividing the cavity of the thorax, or chest, from the cavity of the

abdomen, and the walls of the abdomen are at the same time pushed forward. In the latter, the lungs are pressed outwards against the ribs. Breathing in singing as well as in speaking should always be primarily abdominal, but should become thoracic as it is prolonged. Thoracic breathing should never be attempted alone. Great care should be taken always to breathe as regularly as possible, and not to take the breath in jerks. In speaking and singing the breath should be taken as nearly as possible as it is taken during repose and sleep. Of course, it is not expected that breathing can be effected as regularly during singing as during sleep, for in both speaking and singing there is always a struggle going on between the expiratory and inspiratory muscles. Great perfection of regularity in breathing, however, may be obtained by constant practice, and by always making a point of speaking slowly and regularly, and also singing in the same way, until a quicker rate can be arrived at without the breathing becoming any the less regular. This should be practised over and over again before perfection can be anything like arrived at, and, moreover, all people will not succeed equally well. The formation and build of the chest in different people will make a vast difference in the amount of progress attained. Thus, in broadly built people with a large measurement round the chest wall, the capacity of the lungs will be proportionately great, and the force with which air is expelled from the lungs very great also. There will be more power over the muscles of the chest and abdomen, and consequently greater ability to economise the expelled air and to both inspire and expire with regularity. The breathing power of an individual is generally measured by the number of cubic inches of air which can be expired at one time after full inspiration, and this is discovered by means of the Spirometer. It does not follow that because the Spirometer shows a weak breathing power in an individual that he will inevitably be a poor speaker or singer, for the capacity of the lungs will increase with proper training; and it has been shown that where the breathing power actually is increasing the appetite also increases, and the person gains both flesh and weight. It is perfectly well known to what perfection of development the biceps of the arm and the calf of the leg may arrive at by steady and persistent training. Just in the same way may the capacity of the lungs be increased by careful and persistent training. As the breathing during speaking and singing, by continuous practice, gradually becomes more and more regular and easy, attention should also be paid to the manner in which the breath may be inspired in sufficient quantity to fully inflate the lungs without causing any noticeable or unnecessary pause in the speaking or singing. Only by repeated practice can this be properly effected. The breathing should



not only be easily carried on during speaking or singing, but the inspiration should be as short and full as possible, and almost imperceptible—and should by means of practice be noiseless, and always made at such a place as not to interfere with the sense of the phrase. Then, when the inspiration can be easily made in this manner, there will be the less difficulty in acquiring the proper mode of expiring, which should be to expel the air from the lungs steadily and gradually, always remembering to be as economical as possible, so as not to run short or occasion unnecessary jerking or gasping. It should not be forgotten that the greatest singers appear to have an inexhaustible supply of breath; the celebrated Senor Garcia in training the voice always made the singer practice with a lighted candle before the mouth, and if the flame became extinguished or even wavered he considered that too much air was being expended.\* The value of regular and easy breath-taking is now fully recognised, since we have become acquainted with the Laryngoscope, with which instrument an experienced eye is enabled to see quite plainly the vocal cords, and to notice the action upon them of inspiration and expiration. On taking a breath the cords are seen, by the help of this instrument, to separate widely and to come together again in the act of expiration. This is caused in the following manner. When air is driven from the lungs it widens the cartilaginous cavity of the larynx and thus tightens the vocal cords, through which the air must pass on its way to the mouth. The rapid rush of air between these tightened cords causes them to vibrate and thus divide the air into a number of sonorous waves or pulsations. The character of the musical notes produced vary to a great extent in accordance with the tightness or looseness of the cords, and this tightness or looseness, again, varies in accordance with the power used in expelling the air from the lungs. It must be borne in mind that no healthy sound can be produced without exercise of the will; thus, in ordinary breathing, where there is no such exercise, there is no sound emitted. After leaving the larynx the sound passes into the membranous cavity of the pharynx, which is extremely mobile and of variable capacity, and which may, by the power of will, be either contracted or expanded, thus modifying the voice considerably. From the pharynx, or throttle, the sound passes forward through the fauces, from which point, as far as the lips, articulation is effected. Having discovered the proper way to inflate the lungs, the manner in which air is expelled from the lungs to form sound, and the mode by which the sound is emitted through the mouth and converted into articulate speech, we must now turn our attention to the consideration of the mode by which the voice thus

acquired may become a useful and musical one. The first thing to be done before a good singing voice can be obtained, is to practice scales within one octave until the voice can run easily up and down with regularity and various degrees of rapidity and force. By doing this the lungs are accustomed to inflate readily and to expire gradually and gently, and, at the same time, by moderating the voice, the vocal cords are taught to tighten and slacken to fine degrees. This lesson for the vocal cords is most necessary, for upon their power of tightening and slackening mostly depends the variation of pitch, &c. In the human voice the variation of pitch is from two to three, or even, in rare cases, three-and-a-half octaves, and to aid in accomplishing this variation the cords have in men the power of altering in length one-sixth of an inch between their highest and lowest note, and in women one-eighth of an inch. In order to be able to sing, it is most necessary that the throat should be in a properly healthy condition. The presence of enlarged tonsils will be a hindrance in the way of acquiring a good singing voice, and when removed it is said on good authority that the voice is raised half an octave.\* The reason of this is that while the tonsils were in the throat in a swollen condition they diminished the power of the pharynx to modify the higher notes of the voice. It is said that Madame Patti and other eminent singers have had enlarged tonsils removed, and have thereby vastly improved the voice by increasing its range, and a patient of my own gained a considerable amount of extra range by the same operation. In one case in which I removed the tonsil of only one side the improvement in the range of the voice was remarkable. Interference with the voice is not the only evil caused by chronic enlarged tonsils, for they often arouse into activity that dire disease, consumption, and are sometimes the cause of pigeon-breast, which deformity frequently diminishes after removal of the diseased organs.†

(To be continued.)

### MEDICAL PRACTITIONERS.

THERE are in the present day so many different kinds of medical practitioners to be met with in the large centres of population, that a word about them will not be out of place here. In olden times the barber-surgeon, or leech, was the counterpart of the country practitioner of the present day, always ready at a moment's notice to respond to the calls of the sick, no matter at what hour of the day or night. The Court physician was considered a much grander and more learned person than the leech, and was employed usually by the aristocracy,

\* Dr. Bennati, *Sur la mécanique de la voix humaine.*

† Dr. Prosser James, on *Sore Throat.* Mr. Shaw, *Medical Gazette*, 1841.

\* Mr' Lennox Browne on *The Singing Voice.*



and as a consultant in doubtful cases under the treatment of the leech. The kind of treatment adopted by both in the discharge of their office was, as compared with the remedies of the present day, remarkably primitive, and generally influenced by the superstitions of the time. All this is now changed, and when one looks around and sees the vast army of medical practitioners, all presumably well-educated in their science and art, one cannot help wondering how employment can be found for them all, sufficient to repay them for the time and money spent in acquiring the requisite amount of knowledge. There are at present, according to Churchill's *Medical Directory*, 22,177 medical practitioners in this country, holding registerable qualifications to practise medicine, of whom 8,994 practise in London, 11,319 in the provinces, 2,008 in Scotland, 2,416 in Ireland, and 2,445 in the public services. All these have had to attend the practice of some medical college, and walk for the required time some public hospital, after which they have passed the examinations of one or more of the medical licensing boards, and have thereby obtained their diplomas. When a student has completed his studies, and obtained a medical and surgical qualification, he either applies for a post as house-physician or house-surgeon to a hospital, where he may acquire a little practice before commencing for himself, or he seeks a partnership with some medical man, where he may acquaint himself with the usual routine of a medical practice, or he goes abroad as surgeon to some ship, or, if sufficiently confident, he settles down in some locality and patiently waits until he makes a nucleus of a practice. Some prefer to purchase a practice at once, but this is not, as a rule, a wise plan, unless a long partnership introduction be given. Some practitioners, having a particular fancy for the treatment of some special organ of the body, devote themselves to the study and practice of that particular organ, and are then called "specialists." This kind of practice is quite a modern innovation, and is likely before long to be the means of conferring the greatest blessings upon the human race. Prior to this development of special study and practice, blind, deaf, dumb, and insane people were allowed to drag along their miserable existences with little or no chance of ever being relieved of their fearful infliction. Now, however, owing to this devotion of a few medical men to special study and practice, their knowledge of the diseased conditions of the eye, the ear, the tongue, the brain, the skin, &c., has so rapidly increased, that the blind may now receive their sight, the deaf may be made to hear, the dumb to speak, the maniac to receive his intelligence, and the leper be made whole. Indeed, medical science has advanced so rapidly in the last few years, that the whole system of medical practice appears likely soon to be

entirely remodelled. It is now come to be recognised that the administration of certain drugs for certain diseases is entirely unscientific and useless, and that in order successfully to cope with disease the physician or surgeon must search for an adequate cause for the effect produced, and when he finds it devotes all his knowledge and energy to removing it. The old and erroneous plan of treating effect has been rightly swept away from the practice of intelligent and well-educated physicians, and will never more occupy the place it once did. Most of us can recollect the old country practitioners, who, when called to a case of sickness, would inquire for the prominent symptoms, and immediately prescribe some mysterious and disgusting medicines in the shape of mixture, pills, powders, &c. to be taken by the unfortunate patient, who faithfully and implicitly believed in their value. These medicines were held in such high esteem by the people that unprincipled quacks took advantage of their faith and ignorance to make capital out of them, and to such an extent did this nefarious traffic extend, that hardly a town existed in the country without its so-called "doctors," who made comfortable incomes from the sale of useless concoctions which they called "medicine," and which they knew perfectly well had no virtue at all. Even in the present day there are hundreds of simple-minded people who believe that a "doctor" is not worth much unless he provides them with plenty of "stuff to do them good," in the shape of pills and mixtures, and there are plenty of medical practitioners who are only too ready to comply. The value of a medical practitioner lies in the advice he can tender, which is the outcome of long and deep study of the human body and its surroundings, and not in the amount of medicine he can supply. As an example of the meaning of this, two examples may be given. The first is that of a medical practitioner in a large manufacturing centre, who resides at the corner of two leading thoroughfares, has a large red lamp over his corner door leading into his waiting-room, consulting-room, and surgery, with his name and titles painted in as large letters as the size of his lamp will permit. On the waiting-room window is written the hour at which the "doctor" may be found at home, with a notification that the doctor is also an "accoucheur"; and inside, a gentleman, just out of his teens, sits comfortably smoking a pipe, with his feet on the mantel-shelf, and a novel in his hand. This person is the assistant, who, in consideration of an annual salary of twenty pounds a year, and board and lodgings, makes up the medicines, prescribes for patients when the "doctor" is not at hand, and visits all those whom the "doctor" himself is not disposed to visit, besides undertaking most of the night calls. This kind of practitioner is to be seen driving quickly through the streets, by the side of his liveried

servant, in an attractive-looking vehicle, generally of a yellow or other staring colour, as though he were the most important man in the town, and was overwhelmed with mental anxiety and bursting with intelligence. His visiting list perhaps contains thirty or forty names to be seen by him during the day, whilst his assistant is expected to "get through" the same number. The charges range from a shilling per visit, to half-a-crown for a visit and medicines, including mixture, pills, and outward applications, with the strictest directions as to the particular moment of the particular hour of the day each dose is to be taken. Such a practitioner hurriedly listens to his patient's description of his, or her ailments, as hurriedly dots down the medicine to be sent, and as hurriedly dismisses the case from his mind as soon as he leaves the patient's door. An income of £1,500 per annum is easily made in this manner, out of which twenty pounds goes to the assistant for his valuable assistance during the year. The idea of opening a medical book, and carefully studying the opinions of eminent authors on difficult and obscure cases, never enters the head of this important and busy, but thoroughly ignorant and conceited practitioner, who is contented to go through the monotonous routine of practice day by day, relying upon his own limited knowledge and prescribing this drug as "good for" this complaint, and that drug as "good for" that complaint, without having the most remote idea of the cause of his patient's ailments. The second example is that of a medical practitioner who resides in a quiet-looking residence, on the door-plate of which may be seen the name of the occupant, with the prefix "Dr." or the word "Surgeon" underneath. This gentleman is the honorary surgeon to the hospital near at hand, at which charitable institution he devotes one hour a day of his time without any salary. He rises early, is contented with moderate living, knowing no excesses, devotes his leisure time to scientific research and mental culture, with a reasonable amount of recreation, drives a modest and quiet-looking carriage, or, perhaps, prefers walking, with an occasional cab or omnibus, and is contented with a visiting-list of twelve or fifteen a day. He devotes a considerable time to each patient, entering minutely into the particulars of the case, and probably prescribes some alteration in the patient's mode of living, or prohibits some excess or irregularity which is the cause of the malady. He values his services according to his own ideas, and not according to those of his patient, and considers that he is entitled to half-a-guinea for each visit, or five shillings for advice at his own residence. These two examples may be said to fairly represent on the one hand the ignorant and disreputable practitioner, and on the other the highly cultured, intelligent and respectable practitioner. Educated

and intelligent people will be able quickly to decide which of these two should be their medical adviser; but there are hundreds who, unfortunately, do not so readily see through the artful devices of the clap-trap practitioner, and who imagine that they "get more for their money" from the one who supplies them with plenty of physic, than from the one who "sends them nothing." It will be a great blessing to the people when they at length awaken to a true appreciation of a medical man's value, and regard his advice, though consisting of few words, as the outcome of his vast experience, and valuable as such. If a man is in a difficulty regarding the wording of his will, and calls upon his solicitor to ask him a question which will place the point beyond doubt, he is quite satisfied to pay his legal adviser a fee of six shillings and eightpence for the advice tendered; and considering that that advice was valuable to the client, without which he could not possibly carry out his desire, and that it was the result of long years of study and experience, entailing an outlay of an enormous sum of money, the fee must be considered a small one in exchange for the value received. Exactly so should it be with regard to medical advice. If a patient call upon his medical adviser, and ask him whether he considers that a residence during the winter months at a southern watering-place would be beneficial to him, or whether his finger, which has become swollen and inflamed, requires poulticing or lancing, the fee of five shillings charged by the medical adviser should be considered little enough, for the same reasons as are given above, even though the advice were contained in the monosyllabic word "yes," or "no." Far better is it to pay for such advice to a practitioner of education and experience than for a course of treatment to a routine practitioner of doubtful standing in his profession. It will, perhaps, be urged that a poor man cannot afford to pay even a fee of five shillings for a medical man's advice. This is true, in a sense; but we must consider the full meaning of the expression. The clap-trap practitioner deludes his patients into the belief that he is a low charger, and they, in their innocence, believing this, and imagining that their "doctor" knows as much as any other "doctor," apply to him, and receive the usual "bottle of stuff," for which they pay eighteenpence, and are requested to call again next day that the "doctor" may see how the "stuff" has acted. This goes on day after day, until the poor patient has been drained by the crafty "doctor" of about fifteen or twenty shillings. They are, however, quite satisfied, because, as they say, they got "lots of stuff for their money." The advice they would have, in all probability, received at the hands of the "doctor" whose charge was five shillings, would have been to desist from certain pernicious practices, or to be more particular about

the diet. Probably no further advice would be necessary, or a prescription may be included. Moreover, all respectable medical men do not charge an invariable fee, and few poor people are turned away from the consulting-room of a respectable practitioner if they are willing to pay a fee of five shillings, or even less in some cases. If the people would but believe it, a fee of five shillings paid to a respectable medical man for his advice and, if necessary, prescription, or half-a-guinea if a visit be included, about once or twice a week in times of sickness, is far better and far cheaper than a running account at the surgery of a cheap "doctor," who doses them with physic. The fees of specialists are, of course, higher than those of general practitioners, and that of a consulting physician is usually one guinea.

### REVIEWS.

*Health Studies* (Hodder and Stoughton), by H. Sinclair Paterson, M.D.—This book consists of a third course of lectures delivered in the lecture hall of the Young Men's Christian Association, on food and appetite, muscular and mental exertion, rest and sleep, disease germs, rational principles of medicine, &c. It is well written, and will be found very useful by those who desire to avoid ill-health and to secure instead that most desirable condition *mens sana in corpore sano*.

*Ambulance Lectures* (Griffith and Farran), by Lionel Weatherly, M.D.—This little handbook is an excellent guide for the treatment in emergencies of cases of accident or sudden illness by non-medical people, when professional assistance cannot readily be obtained. The author commences by giving a general outline of the structure and functions of the human body, and then proceeds to describe the readiest mode of putting up a broken limb, restoring respiration, bandaging, arresting bleeding, applying poultices, &c. It is well worth the careful perusal of all who wish to be of service to their fellows in case of accident.

*Gout and Rheumatic Gout* (Simpkin, Marshall & Co.), by John W. Foakes, M.D.—This volume has now reached its eighth edition, a fact which speaks well for its usefulness and popularity. The author explains his method of treating these very painful affections, and records a large number of cases illustrative of his success. The work has been favourably reviewed by a great number of influential journals, and we can add our testimony to its usefulness and genuineness.

*The Tender Toe* (Effingham Wilson), by William Lomas, M.R.C.P.—Mr. Lomas has divided his little book into five chapters, describing the causes and treatment of gout, and the diet which is most suitable to such cases. There is a great deal to be found in its pages of interest to all who are the

victims of this dire malady, and a careful study of the little work will not be time wasted.

*Brain and Stomach, or Mind and Matter* (H. Vickers), by Watson Bradshaw, L.R.C.P., M.R.C.S.—Mr. Bradshaw in his book has given a very lucid description of the various conditions of the mind, and of the common forms of indigestion which often cause them. There are also lengthy remarks on mental cultivation, sleeplessness, railway travelling, and intoxicating beverages. We recommend the work as a very useful treatise, and one likely to give satisfaction to its readers.

**THE FILTH OF THE MIDDLE AGES.**—Dr. Lyon Playfair stated in his address at Glasgow, in 1874, that "when the civilization of the Egyptians, the Jews, the Greeks, and the Romans faded, the world passed through dark ages of mental and physical barbarism. For a thousand years there was not a man or woman who ever took a bath." "No wonder that there came the wondrous epidemics of the Middle Ages, which cut off one-fourth of the population of Europe." "But even when the Middle Ages had passed away and the sun of civilization was again rising over the gloomy darkness of the centuries, what a heritage of filth-producing disease still remained!" Look at Montaigne's description of the plague at Bordeaux, from which he fled to his country house; it killed 18,000 out of 40,000 people, followed him, and destroyed whole villages; men's minds were occupied not with the thought of life, but how to protect their bodies from wild beasts after their death. He gives a terrible picture of one of his own workmen, whose last act was to draw the earth over his own expiring body. It is not a pleasing task to dwell on the habits of the populations of England in past times. Go back only to the time previous to the Reformation, and you can have no difficulty in understanding why luxury and squalor produced the plagues of the times of the Tudors and Stuarts. The cabin of the peasant was made of reeds and sticks, and plastered over with mud. In these wigwags lived an ague-stricken population. In the towns the mechanics lived in rooms without glass windows, slept on straw beds, and worked in shops unheated by fire. Even in the well-to-do houses rushes covered the floor, and got saturated with scraps of food, which remained to putrify under new layers of rushes scattered over it, so that the "petreman" came to dig saltpetre out of the floors. Filth, instead of being abhorred, was almost sanctified. The monks imitated the filthy habits of the hermits. St. Antony never washed his feet; St. Thomas-a-Becket, when martyred, had under-garments in a state which makes one shudder in the remembrance. And so the monks, in part, up to the present day,

thought, or pretended to think, that by antithesis pollution of the body indicated cleanliness of the soul. But this association of filth with religion was unhappy in its consequences, for men ceased to connect disease with uncleanness, and resorted to shrines and winking Virgins for cures for maladies which were produced by their own physical and moral impurities.

For twenty years after the Restoration there was an exceptionally high mortality, even for that epoch, in the metropolis. Macaulay describes it as a time "when men died faster in the purest country air than they now do in the most pestilential lanes of our towns, and when men died faster in the lanes of our towns than they now die on the coast of Guiana." Dr. Edward Bascombe, in his *History of Epidemics*, says that up to the year 1760, extraordinary as it may appear, there was not any such thing as a privy in Madrid; it was customary to throw the ordure out of the windows at night, and it was removed by scavengers next day. An ordinance having been issued by the King that every householder should build a privy, the people violently opposed it as an arbitrary proceeding, and the physicians remonstrated against it, alleging that the filth absorbed the unwholesome particles of the air, which otherwise would be taken into the human body. His Majesty, however, persisted, but many of the citizens, in order to keep their food wholesome, erected privies close to their kitchen fire-places. Compare this fearful state of things with that of the present day, and let us be thankful that science has prevailed over the ignorance of the Middle Ages, and lend a helping hand to those who now are striving to render the condition of the masses more conducive to health and happiness.

**MODE OF KILLING FISH.**—M. Baule, writing in the *Journal de St. Malo*, explains why fish eaten in Holland are superior in taste to those eaten in France. The Dutch fishermen kill their fish as soon as taken from the water, by making a slight longitudinal incision under the tail with a very sharp instrument. The French fishermen, on the contrary, allow their fish to die slowly, and this slow death softens the tissues, and renders them more liable to undergo change. No one, says M. Baule, would eat of a sheep or a fowl that had died a natural death or had been drowned, and why should we be less delicate with an animal that inhabits the water?—*Union Méd.*, May 19.

**STATISTICS OF MEDICAL LITERATURE.**—At the International Medical Conference, in London, Dr. J. S. Billings, of Washington, D.C., read a paper upon medical literature, with especial reference to its character and distribution. The paper opens with the following statistics:—

It is usual to estimate that about one thirtieth of

the world's literature belongs to medicine and allied sciences. The number of volumes is computed to be about 120,000, and about twice that number of pamphlets, and this amount is increasing at the rate of about 1,500 volumes and 2,500 pamphlets annually. Out of the 180,000 medical men in the civilized world, about 11,600 are producers of or contributors to this literature. These are divided among the different countries as follows:

	Number of physicians.	Number of medical writers.
United States . . . . .	65,000	2,800
France and colonies . . . . .	26,000	2,600
German Empire . . . . .	32,000	2,300
Great Britain and colonies . . . . .	85,000	2,000
Italy . . . . .	10,000	600
Spain . . . . .	5,000	300
All others . . . . .	17,000	1,000

The number of physicians who are writers is proportionally greatest in France and least in the United States. In 1879 the total number of medical books and pamphlets published was 1,648, according to the *Index Medicus*. Of these France published more than any other country, the contributions of the United States ranking third. The special characteristics of the medical literature of the present day are largely due to journals and transactions of societies. These form about one half of the current medical literature, and are by far the most widely read and studied. They amounted in 1879 to 655 volumes, containing about 20,000 original articles which were judged worthy of notice in the *Index Medicus*. Classifying the literary product of 1879 by subjects, we find the scientific or biological side of medicine represented by 167 books and 1,543 articles. In this branch Germany leads, while the United States is very low in the list. The practical side of medicine was represented by 1,200 books and 18,000 articles. Here France showed the greatest production, the United States next, and then Germany. In scientific medicine we go to Germany to school, as that country at present leads the world. It was not long ago that the scientific student of medicine found his career anything but a profitable one. This condition is, however, rapidly changing, with the increasing specialization of his profession, and with the general tendency of science toward achieving practical results. So vast is the present range of medical science, that we must now look for original discoveries mainly to specialists.

**MILK AS AN ARTICLE OF DIET FOR THE SICK.**—Dr. Trask, in a paper published in the *New York Med. Record* for March 19, makes some useful suggestions for rendering milk more useful as an article of diet for the sick and feeble of digestion. Many persons object to its use as causing what they term "biliousness," which is often due to their regarding it as a mere drink instead of as an article of food, In

order that it may become completely digested, it should always be taken at one of the regular meals, or as nearly as practicable midway between two meals. And when bread and milk are taken together, they are often taken too hurriedly and in too large quantities. When given to children or adults with feeble digestion, the bread should first be thoroughly mixed with the fluids of the mouth, and swallowed before the milk is taken. The digestibility of milk, too, often depends upon the temperature at which it is taken, the digestive organs of persons suffering under nervous prostration not being able to supply the amount of vital heat necessary to raise the milk to the proper temperature for digestion. Given at ordinary temperatures it is felt by such persons as a cold foreign body long after it has been swallowed, and its ingestion is frequently followed by acidity and headache. The reasonableness of warming the milk before giving it is shown by the fact that in summer such warming may be usually dispensed with. The value of external heat as a vital stimulant is generally acknowledged, but few seem to appreciate its value when introduced into the stomach as a vital restorative. For persons who are fatigued by over-action of body or mind, a glass of milk heated as hot as it can be sipped, although less palatable, exerts a great reviving influence, and may be often used advantageously as a substitute for alcohol.

**ADULTERATION OF FOOD IN ENGLAND AND AMERICA.**—Dr. Charles Stuart (*National Board of Health Bulletin*) gives a very excellent report of an elaborate series of investigations respecting the adulteration of food. He finds that food adulteration is practised in America at the present time to as great an extent as prevailed in England at the time of the agitation which led to the enactment of repressive law. The corn meal and lard are pure. Wheat flour is not mixed with alum, but the bakers use it. Sugars are cleaner, but they have glucose admixtures which the English had not; and if coffees are better it is owing more to the practice of home grinding bequeathed to them from the early days of the country, when grocery stores were not so common as they are now. The few samples of loose coffees which were found to be adulterated show that there is a tendency to debase the article, which would no doubt increase were the coffee mills to disappear from kitchens until the condition of the market would be represented by the trash which is now sold as package coffee. On the other hand the remainder of the articles included in this report are found to be as bad, and many of them, as the peppers, allspice, cinnamon, &c., in a worse condition than were the English supplies when official attention was directed to them. Fortunately, with such exceptions as the alum in bread and baking materials, the sulphate of

lime which often replaces cream of tartar in household baking, the debasement of milk by dilution, and the poisonous pigments used for colouring confectionary, the adulterations cannot be considered as deleterious. They affect the pocket of the individual rather than his health, so that the question of the adulteration of food should be considered not so much from a sanitary standpoint as from that of a commercial interest, as being of the nature of a fraud in aiding in the sale of articles which are not what they should be.

**THE CRÈCHE.**—The utility and advantages of these establishments is exemplified by the fact that the number of attendances of children at the East-end Crèche, founded nine years ago by Mrs. Hilton have considerably exceeded thirty thousand. The number last year was 2,048.

**A ROYAL RECOGNITION OF HEROISM IN MEDICINE.**—We learn from the *Lancet* that the Queen has been graciously pleased to confer the decoration of the "Albert Medal" of the First Class (for gallantry in saving life) upon David Lowson, M.D., of Huddersfield, under the following circumstances:—On the 12th November 1880, Dr. Lowson was called to attend the child of Police Constable Higginbottom, of Huddersfield, who was suffering from laryngeal diphtheria. He performed the operation of tracheotomy, but suffocative attacks supervened, and on visiting the child next morning he found it in a livid state and breathing only with great difficulty. Seeing that the only chance of saving the child's life lay in sucking the tube clear, he at once, at imminent risk to himself, applied his lips to the tube and sucked out the accumulated mucus, thereby affording immediate relief to the patient. Throughout the day he continued, by means of a pipette, to suck out the mucus from the trachea. Notwithstanding his efforts the child unfortunately died on the third day after the operation. Dr. Lowson's heroism was followed by a severe attack of diphtheria, with which he was seized in the course of a few days. Other dangerous illness supervened, compelling him eventually to abandon his profession and to retire from a lucrative partnership. We are much gratified at being able to give our readers particulars of an act, on the part of Her Majesty, which will be deeply appreciated by the medical profession. Such gracious recognitions on her part cannot, in the nature of the case, be very frequent, for the simple reason that such conduct as Dr. Lowson's is, in its principle at least, a matter of not infrequent occurrence. But it is satisfactory to know that deeds of daring done by medical men in quiet sick rooms for the chance of saving life—in this instance a child's life—and in entire disregard of risk, are not overlooked by one whose character and station give to her approval a

great value. A plucky deed on the battle-field may have its reward in the enthusiastic plaudits of bystanders, or in the fame which accrues from report and public comment; but the silent courage implied in such an act as Dr. Lowson's is apt to go unrewarded and unrewarded, except in the consciousness of him who does it.

**PRACTICAL SANITARY KNOWLEDGE FOR PLUMBERS.**—Sanitation has become to almost all classes of society a daily increasing subject of interest. Public lectures and sanitary associations have largely, undoubtedly, promoted this general desire for knowledge on the question. The series of lectures recently commenced, under the auspices of the National Health Society, to working plumbers, with the view, *inter alia*, of instructing them in the best mode of effecting sanitary improvements in houses, has aroused an eager interest among plumbers and other artisans, as testified by their large attendance on these occasions at the Hall of the Society of Arts. To the intelligent workman they can hardly fail to be both instructive and of considerable advantage. The lecturer remarked that, as to the trade of plumbing, in nine-tenths of the workshops where young men are apprenticed, painting and glazing were the occupations that they were really engaged in, and "plumbing was only an accessory"; and that there was generally a deplorable want of knowledge of sanitary matters.

**FISH FOR FOOD.**—There can be no question, says the *Lancet*, that fish might with advantage form a more common article of diet than it now does. It is notorious that the market supply is manipulated to keep up prices, the commodity being regarded as a luxury rather than a necessary. Nobody is to blame for treating the article thus *commercially*, but it is a reproach to the good sense of the community that the value of fish as an article of food is not generally recognised. It is eminently a form of nutriment well suited for the use of a population working to a very considerable extent with its brains, and exposed in no ordinary degree to the wear and tear caused by worry. If proper arrangements were made for the rapid transit of fish to the metropolis, and an adequate and accessible market were provided for its sale, the population might be well supplied at reasonably low prices. Obviously those who trade in fish cannot be expected to incur the risk of loss by the spoiling of a peculiarly perishable article before it can be distributed, and they may well be excused for some finessing to keep up prices; but difficulties such as these ought to be overcome. It is not necessary to point out to medical readers the importance of a full and good supply of fish, but it is time the profession took means to bring considerations well known to themselves under the notice of the public, so that the opportunity which seems to

have occurred for the removal of needless obstacles to the use of fish as an element of ordinary diet may be utilised.

**"OLD MEN" IN THE "GOOD OLD TIMES."**—It is very pertinently remarked in *The American*, that there is one point which is too frequently overlooked by writers on historical cases of longevity—the singular difference between our estimation of an "old man" and that of our forefathers. "Old John of Gaunt, time-honoured Lancaster," died at fifty-nine; so did James I. Henry VIII. only reached fifty-three. The Huguenot Admiral Coligny, whose "hoary hair, all dabbled o'er with blood," is mentioned by Macaulay, and whom his earlier biographer, Lord Huntingdon, represents as a very old man, was slain at fifty-three, when in these days of Moltke, Gortschakoffs, Gladstones, Beaconsfields, Dufaures, Broughams, and Lyndhursts, a man is supposed to be rather on the juvenile side. In point of fact, for our ancestors a man of fifty was old; with us the limit is nearer eighty. It is legitimately to be inferred from this fact that, in the first place, the average duration of life was shorter in past time than it is nowadays. In the second, that the chances of error in accounts of alleged centenarians were infinitely greater—so that if a man of eighty or eighty-five called himself 100 or 110, his story would be exceedingly apt to be believed.

**THE FRENCH ANTI-TOBACCO SOCIETY.**—The French society to prevent the abuse of tobacco had a meeting recently in the large amphitheatre of the Sorbonne; a member of the "Institut," M. Bouley, presided. This society numbers 1,000 members. It was founded by an army doctor, M. Decroix, who gave up his profession and all other avocations and dedicated the whole of his leisure and fortune to the interests of the society. Not only in every corner of France, but in other countries, M. Decroix sought disciples and workers to aid him in his propaganda against tobacco. The most interesting feature of this meeting was the distribution of prizes. Among those who received prizes for abstinence from tobacco, there were two sailors; one, an old man of eighty, gave up the habit of smoking when he was sixty years of age. Stable-boys in the employ of omnibus and cab companies received prizes. Their conversion resulted rather from fear of setting the stables on fire than from hygienic scruples. The Director of the Compagnie du Chemin de Fer du Nord received a medal for rigorously enforcing, in all the stations along the line, the rules prohibiting smoking. A great many schoolmasters received medals for endeavouring to foster a holy horror of tobacco amongst their pupils.

**POISONED FOOD.**—Among the many dainties that help to swell the physician's wallet and his list of

patients, it is our pleasant duty to class trichinosis pork, garget beef, animalculæ chicken, odorised, nicely fertilised, or decayed vegetables, over-ripe, fermented, over-acid fruits, swill milk, and foul drinking-water. The poor, Heaven help them! It most affects them because of the smallness of their means, and the authorities permit their sale to continue unchecked. A promising outlook truly!

**SANITARY FACILITIES.**—In the densely-populated district of the Deptford Lower Road, some public baths and washhouses have been completed and opened for public use. They will be an immense boon to the inhabitants, not only for bathing, but laundry purposes. The whole establishment has been arranged and fitted with every regard to cleanliness, accommodation, and convenience.

**"NIPS."**—The American bar system has unfortunately, with all its various pernicious enticements, taken at length a somewhat firm hold in London. The habit of indulging in irregular "nips," "pick-me-ups," &c., is rapidly extending itself in our midst. The custom of drinking liquors of this kind at odd times as a mere "nip" is said to be greatly on the increase amongst our business men. It is most injurious to health, the forerunner of insobriety, and a habit to be deprecated from every point of view.

**A NEW TEMPERANCE SANATORIUM.**—The "Private Home" which has been so long and successfully conducted by Mr. and Mrs. Morgan for ladies given to intemperance, chloralism, morphism, opium eating, &c., and which is so well-known in the south and west, has been removed to larger and more extensive grounds and park of nearly forty acres, in a very healthy locality within a drive of the city of Bath. Rudloe Hall (Box, Wilts), the new residence, is well-ventilated, and warmed throughout by the most approved hot-water apparatus to a uniform temperature of 60° F. by day and night. Carriage exercise is provided for patients, and every home comfort and amusement is guaranteed. We congratulate Mr. and Mrs. Morgan on their move, which is one in the right direction, and we feel confident that the public will bestow upon them a large share of their patronage, which we can assure them will not be misplaced.

**DEARTH OF DOCTORS.**—It appears that there is a dearth of medical men in Shetland. Outside of Lerwick there are but six practitioners to a population of more than 87,000. An appeal has been issued for funds to assist in the establishment of dispensaries in various parts of the island, and to pay medical men for periodical attendance at these institutions.

## NOTICE.

All letters and other communications for the Editor should be addressed to him at the Publishing Office, and, if for publication, should be written legibly, and on one side of the sheet only. Communications relating to subscriptions and advertisements should be addressed to the Publishers.

No notice will be taken of anonymous communications unless authenticated by the name and address of the author, which need not necessarily be published.

The following books, pamphlets, &c., have been received:—*Skin Eruptions, their Causes and Prevention*, by H. J. Hardwicke, M.D., F.R.C.S., M.R.C.P. (W. H. Allen & Co.). *Milk and Milk Food*, by W. C. Cockson. *Homœopathic Patients and Operating Surgeons*, by R. E. Dudgeon, M.D. (Henry Turner).

## CORRESPONDENCE.

To the Editor of THE FAMILY DOCTOR.

SIR,—Can you give me any good reason why we should have a different mode of disposing of our dead than that which is now adopted? I should be very glad to hear what you have to say on the subject, as it is one in which I am greatly interested.

Yours obediently,  
SUBSCRIBER.

[The report of the Commissioners of 1849 states—"We may safely rest the sanitary part of the case on the single fact that the placing of the dead body in a grave, and covering it with a few feet of earth, does not prevent the gases generated by decomposition, together with putrescent matters which they hold in suspension, from penetrating the surrounding soil, and escaping into the air above and the water beneath." This we think conclusive.—Ed.]

To the Editor of THE FAMILY DOCTOR.

SIR,—I should consider it a kindness if you will allow me to use your columns to call attention to the enormous traffic carried on in spirituous liquors at grocers' shops. Females in particular are in the habit of constantly dropping in at the grocer's for a small quantity of butter, or other household commodity, and at the same time of taking home with them a small quantity of something strong to amuse themselves with during the absence of their husbands. The grocers encourage this kind of thing and tell them that a little can harm nobody, and that the liver gets congested on too much milk or water, &c. The husbands have no idea of the amount consumed by their wives in this sly manner. Perhaps some of your readers may be inclined to take up this matter.

I am, Sir, yours truly,  
W. P. L.

**Bather.**—In the capital of the Roman Empire, bathing and swimming establishments were regulated by the Legislature, as they were among the Greeks and Spartans. The latter, in particular, did not deem it expedient to entrust bathing to the caprice of individuals, but considered it as a public institution, which was governed and arranged according to positive laws.

**Justice.**—You are quite right, and if you make an application at the Offices of Health, no doubt your grievance will be at once remedied.

**J. R.**—You are not bound to pay the medical man for attendance on your servant, unless you sent her to him yourself.

**M. H.**—The price of Dr. Teale's book on *Dangers to Health*, we believe, is 8s. 6d. Write to Messrs. Churchill, the publishers, 11 New Burlington Street, W.



## NOTICE.

The Journal will be supplied post free, each month, for one year, on receipt of P.O.O. for 3s. 6d., made payable to the Publishers, Messrs. W. H. Allen & Co., 13, Waterloo Place, London, S.W., at the Charles Street, Haymarket, Post Office.

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## THE FAMILY DOCTOR.

## THE PREVENTION OF CONTAGIOUS DISEASES.

By C. A. CAMERON, M.D., Ph.D., Sanit. Sci. Certif., F.R.C.S., M.K.Q.C.P., &c. Professor of Hygiene and Chemistry at the Royal College of Surgeons in Ireland.

(Continued from page 39.)

**WATER AS A CARRIER OF DISEASE.**—It is a general belief amongst physicians that two contagious diseases—namely, Asiatic cholera and typhoid (*enteric*) fever are propagated by means of impure water. According to some authorities, the former disease is chiefly spread by this channel. The case of the pump in Broad Street, London, has often been quoted in support of this belief. It was proved that the water of this pump had been rendered impure by matters ejected from the bodies of cholera patients; and it was found that an immense number of persons who drank this pump water caught cholera. I have known many cases of cholera, which I am firmly convinced were the result of the use of contaminated water.

In general, the purest drinking-water is that furnished by large lakes. Glasgow is supplied with the water of Loch Katrine, which is so pure that it contains only two grains weight of solid matter in every imperial gallon (70,000 grains).

Next to lake water, that flowing in rivers is the purest. Running waters soon lose by oxidation most of their organic substances. It is surprising how soon sewerage matters become converted into innocuous mineral substances when hurried along with the waters of a rapid stream. Still, it must not be supposed that all rivers are pure; on the contrary, those that flow through densely populated districts not unfrequently are loaded with organic impurities. When the sewage of a large town is discharged into a river, even of large size, it is

evident that its waters must remain very impure for miles below the source of the contamination. This is the condition of many of the large rivers in England; and it will remain so until the refuse matters of towns are deposited in the soil, their natural destination, and not in the water.

The river Vartry, which supplies the city of Dublin with water, is almost as pure as lake water. One imperial gallon of Vartry water contains four grains of solid matter per gallon, of which two grains are "organic and volatile," *i.e.* driven off, or burnt when heated to redness.

Small rivers, which are not used as drains for villages or towns, are, in these countries at least, more likely to be free from dangerous impurities than the larger rivers. I know of many instances where the inhabitants of villages and detached houses could readily procure the water of bright and pure streams, and yet they prefer to use pump and well water, which are, in all probability, contaminated with the drainage from houses, stables, and farm-yards. It is quite a mistake to think that detached country-houses are almost certain to be supplied with pure water; on the contrary, they are usually furnished with water pumped up out of a well sunk in or near to the farm-yard. How often do we not see the stables and manure heap placed on a much higher level than the pump, so that it would be impossible to prevent the drainage from the former finding its way into the shaft of the latter! Typhoid fever is rarely communicated in any way other than through the medium of tainted milk, foul water, or sewer effluvia.

Pumps furnish, on the whole, the most impure water. Some of those in Dublin yield a liquid which contains more than 200 grains of solid matter per gallon. As the water of a well consists of the drainage of a very limited area—often not exceeding a radius of two or three hundred feet—it is evident that city pumps are liable to contain animal impurities. The refuse matters thrown out of the houses, the overflow of cesspools, &c., and the leakages from imperfect sewers, sink more or less into the ground, and are carried by the drainage water into the wells. A city pump may yield pure water, but it is more likely to furnish a polluted supply of this indispensable liquid.

The nature of drainage water is influenced by the character of the soil through which it percolates. The springs and streams in granite, trap, porphyry, and other *igneous* rocks (those that do not contain organic remains), furnish, in general, very pure water. The millstone grit also yields pure water. The *lias* (variable mixtures of clay and limestone), chalk, and *dolomite* (magnesian limestone) springs are, in general, not so pure as those in the primitive rocks, and their water is usually very hard. The superficial wells in sandstones and heavy clays,



especially when under cultivation, furnish, in general, the most impure kinds of water. It must, however, be understood that a spring, or well, in a granite rock might be loaded with dangerous organic impurities, derived from a leaking sewer. In the case of a town built on a granite formation, the nature of the rock will not be a guarantee as to the purity of the well water. In the open country, however, we can, as a rule, form a tolerably correct opinion as to the purity of water, when we know the nature of the rocks through which it had percolated. The Vartry water, which supplies Dublin, is composed of the drainage of a granitic and mountainous district, in which there are but few people and there is very little cultivation of the soil. I should be sorry to drink the water of any city pump when I could obtain such a pure liquid as that furnished by the Vartry.

Rain-water is, in general, sufficiently pure for all domestic purposes; but it is often, when collected in towns, very impure. In the suburban districts of large towns, the rain-water cistern or barrel is often placed within two or three feet of the midden or ash-pit. When refuse matter from the house is discharged into the ash-pit, a portion of it is, not unfrequently, wafted by the wind into the water-barrel. When persons suffering from contagious diseases are in a house, it is easy to imagine that dangerous emanations from their bodies might, in the way above described, find their way into the water-cistern. Some time ago I examined the deposits obtained from a large number of rain-water cisterns and barrels, and found in most of them traces of almost every objectionable matter usually ejected from human dwellings. The obvious way to prevent rain-water from being grossly polluted is to keep it stored in well-covered vessels, which should be as far removed from the ash-pit and other refuse receptacles as possible. The water should be drawn off from these vessels through an iron cock, placed about six inches above the bottom; for when servants are allowed to dip their cans and jugs (with occasionally part of their, perchance, dirty arms!) into the cisterns, they are pretty certain to leave the latter uncovered. Rain-water should not be stored in lead cisterns.

The flavour and colour of water are not always to be relied upon as indications of purity. Very impure water, especially in the lime and chalk formations, is often bright, sparkling, odourless, and well flavoured. Of course, when water is very brown, and possesses an unpleasant odour, it should not be used; but very often we find a yellowish water, insipid, but odourless, remarkably free from organic impurities. Water containing 8 or 10 grains of animal matter per gallon might be colourless, whilst the presence of peaty matter (which, in small quantities, is harmless), in the proportion of two

grains per gallon, generally confers upon water a decided yellowish hue. In the absence of a chemical analysis of water, our opinion as to its qualities must, to a great extent, depend upon our information relative to its source.

It is doubtful if mere filtration is capable of removing from water the virus of cholera or typhoid fever; but it is quite certain that the germs of these maladies are destroyed by the action of boiling water. When cholera or typhoid fever is prevalent, it is the safest course to both boil and filter the water which we drink. The insipidity of boiling water may be greatly lessened by pouring the liquid from one vessel into another about twenty times.

**SANITARY LEGISLATION.**—If the Sanitary Acts were fully carried out by the local bodies who are entrusted with their execution, the condition of the public health would speedily be improved, and the spread of epidemic diseases would be lessened. These Acts empower local authorities to supply pure water to the people, to make sewers, and to utilize sewage. They can compel the owners of manufactories, breweries, bake-houses, &c., to abate the nuisance arising from the emission of black smoke from their premises. They are empowered to summon before a justice all persons on whose premises nuisances injurious to health exist. They may prosecute those who discharge impurities into potable water.

Local authorities have power to seek penalties against those who, whilst labouring under an infectious disease, enter public conveyances without acquainting the drivers or owners that they are so affected. They are empowered to remove to hospital persons ill of infectious disorders who arrive by ship, and those also who have not proper accommodation at their dwellings. They can prosecute persons (hotel-keepers included) who let houses or lodgings which had been inhabited by infected persons, and which had not subsequently been properly disinfected. If persons who are suffering from infectious disease freely mix with other persons they are liable to be prosecuted. The local authorities have power, compulsory or otherwise, to disinfect premises, clothing, or bedding, and to provide vehicles for the conveyance of infected persons and things. They may supervise lodging houses, and houses let in tenements, fixing the maximum number of persons per room, and enforcing proper accommodation in reference to health, cleanliness, and decency. The officer of the local authority may inspect (if he be a medical officer or inspector of nuisances) all places where animal food, vegetables, and fruit are exposed for sale; and if any article appear to him to be unfit for food, he has power to seize and carry it off, and to submit the case for the decision of a justice.

**SANITARY MEMORANDA.**—*Diet.*—Do not fast long. Take your meals at regular hours—dining one day

at four, the next at six, and the following day at three o'clock is likely to lead to indigestion. Eat slowly and masticate thoroughly. If you have lost your own teeth, get a set from the dentist's. Food and drink should not be taken when they are very hot. Breakfast soon after rising. Rest after eating, especially after dining. Late suppers interfere with sleep. If there is to be a second course at dinner, do not quite satisfy your hunger during the first one. Do not eat too much. Feed your children frequently and plentifully, but do not give them alcohol. Tea, coffee, and condiments, are not required by young people. Avoid unripe, or over-ripe, fruit. If you are a dyspeptic, do not eat anything that contains heated butter, and avoid pastry. When cholera is prevalent, avoid fruit, succulent vegetables, sour drinks, and excess of spirituous beverages. Do not eat anything that disagrees with you.

*Clothing.*—Old people and children should be warmly clad, and their limbs should be well protected from the cold. Be careful not to put on damp clothes. Keep your great coat in a dry place. No shirt so healthy as a flannel one, but it should be changed as frequently as a linen one. India-rubber clothing should be worn as seldom as possible. Wear thick-soled boots, with wide toes. Do not allow clothes to press tightly upon any part of the body; tight stays often cause disease, and even death.

*Exercise.*—Take plenty of out-door exercise. When beginning a long walk, set off slowly. Gradually accustom yourself to prolonged exercise, and do not continue it once a painful feeling of fatigue is experienced. Avoid violent exertion—it often injures the heart and other organs. Those who walk eight or ten miles daily rarely suffer from obesity.

*Bathing.*—If you bathe, see that you emerge from the water with a rosy and not a *blue* skin. Do not bathe either when you are very cold or very hot, especially the former. A bath should not be taken after a full meal, or when a feeling of hunger is experienced. Frequent ablutions of the whole body keep the skin in a healthy state.

*Cleanliness.*—Keep your house and premises as clean as possible. Do not allow the ash-pit, &c. to become too full. Dusting a room with a brush is worse than useless. Furniture should be frequently well wiped with cloths and chamois.

*Healthy Dwellings.*—Select a dry site for your dwelling. Let plenty of light and air enter. Every room should have ventilating openings—fifty square inches per person in the case of sleeping apartments. The sewer should not run beneath the house. Leaking sewers are a common cause of typhoid fever. Do not crowd your bedroom with furniture, and dispense with bed curtains. Green wall-paper often contains arsenic. Nurseries are often overcrowded. Do not oblige your servants to sleep in

damp cellars. Pools of stagnant water should not be suffered near a dwelling.

*Disease in the House.*—When a contagious disease breaks out in your house remove all the persons who can be spared. Do not let your children go to school, as they might convey the contagion to other children. When the illness is over, get the patient's and nurse's clothes and bedding promptly disinfected. Do not let the convalescent from scarlatina mix with other people until the skin-peeling is at end, and several warm baths have been taken.

### THE HUMAN VOICE IN SINGING AND SPEAKING.

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(Continued from page 41.)

THE supposed reason of the difference between the male and female voices is that the latter are shorter, tighter, finer, and lighter in weight than the former, and consequently the vibrations are more rapid, and the pitch of the note produced higher. We are in complete ignorance at present as to the varieties of voices, such as bass, baritone, tenor, soprano, mezzo-soprano, and contralto. Probably they depend to some extent upon the length, capacity, &c. of the trachea. It is somewhat remarkable that tall men, as a rule, have bass voices, and short ones tenor, and especially have short-necked people tenor, and long-necked people bass voices. Regarding falsetto there is a variety of opinions expressed, and each widely different from the others. Probably it is to be accounted for by some peculiar action of the pharynx. In endeavouring to acquire a singing voice the greatest care should be taken not to get into a way of singing falsetto, for nothing so much damages the voice as this. The pupil should not be in too great a hurry to advance, but should practice regularly and be content to improve slowly and steadily, so that the parts may become easily used to the changes required. It is not easy for some people to know precisely when they are singing correctly, owing to the hearing not being quite correct. Those, therefore, who have not a very musical ear should be particularly careful in training themselves to distinguish between one note and another on a stringed instrument. It is utterly impossible for anyone to sing well without an ear for music. The first thing, therefore, to be decided is whether or not the pupil has an ear for music, and, if not, proper steps should be taken to remedy the defect before the voice is meddled with. The

connection between the throat and the ear is very intimate, and fortunately those who have a musical voice as a rule have also a musical ear. Before proceeding further, it is necessary to take a cursory glance at the structure of the ear, so as better to understand the connection between it and the throat. At the top of the pharynx, or throttle, immediately behind the posterior nasal orifices, are two small trumpet-like openings, one on each side. These openings are the wide terminations of the Eustachian tubes, which connect the pharynx with the ears, and each of which opens at its other extremity in the cavity of the tympanum. This cavity is situated immediately within the membrana tympani, or "drum of the ear," which is a very delicate membrane, stretched across the inner extremity of the external auditory meatus, or what is called the "ear-hole," and dividing this meatus from the tympanic, or middle ear-cavity. On the inner side of this cavity are placed the essential parts of hearing, and from the front part, as we have seen, the Eustachian tube passes to the pharynx, opening by a wide mouth. Through this tube air is allowed to pass to and from the tympanic cavity. Thus the tympanum and the pharynx are, as it were, a continuation of each other, and one can readily understand how affections of the one organ may be transmitted to the other, and how the hearing may become seriously impaired by an abnormal closing of the Eustachian tubes. It is perfectly certain that without a musical ear one cannot become proficient with the voice, but it is equally certain that with a proper knowledge of the parts of hearing, defects may be remedied with very simple measures. In finding out whether a child has or has not a musical ear, care should be taken to find out first of all whether the condition of the throat and Eustachian tubes are such as to allow of a musical ear being possessed. If the tube be thickened or obstructed, the true musical ear will be impaired and the voice deteriorated. The same may be said of thickening and obstruction of the posterior nostrils, where they are connected with the pharynx. It is not a difficult matter now-a-days to find out the exact condition of the posterior nasal passages, or even the condition of the vocal cords, for with the Rhinoscope and Laryngoscope a view can be obtained of all parts of the pharynx and larynx from the posterior nasal orifices down to the bifurcation of the trachea. The Eustachian tube can also readily be cleared if there should be any stoppage. In cases of stoppage or thickening of the Eustachian tube, and consequent impairment of the musical ear, there need be no anxiety about the ultimate issue, for such cases are perfectly curable, and the pupil will always know when the voice is in or out of tune. When, however, the pupil cannot tell whether he sings in tune or not, the case is very different. Here we do not

find any thickening of either the posterior nasal orifices, the pharynx, or the Eustachian tube, but, what is far more serious, there is some impairment of the auditory nerve, which supplies the organ of hearing, and the case is then always hopeless. As a rule, performers on stringed instruments have a much more correct musical ear than those who can only sing, and, therefore, it is always advisable before training the voice for singing, to learn some one of the stringed instruments, so as to cultivate well the musical ear. Either the violin, guitar, banjo, or harp may be learnt, and, first of all, the scales should be mastered, and the pupil should be able to tune his instrument to a fine degree. Nothing but practice will do this, and nothing will perfect the musical ear so well as constant tuning of a stringed instrument. As soon, then, as the pupil is able to know when he is singing even half-a-note out of tune, he should steadily practice the voice every day in the erect position. This cannot be commenced at too early an age, but care should be taken not to make the lessons too long. Three lessons a day, of fifteen minutes' duration each, are quite sufficient, and far better than one long lesson. These should be gradually made longer, but always kept within an octave, and confined principally to scales, until the voice shows signs of breaking, when the lessons must cease entirely, to be renewed as soon as the voice has assumed a definite character. Unfortunately there is a rage for singing at top voice, and songs are too frequently written for such singing, notwithstanding that it is universally acknowledged that the sweetest and most pleasing voice is a middle one, that is, a voice kept well within its range. The extreme limit of the compass should never be attempted except on rare and special occasions. By attending to the foregoing remarks, not only may a good voice with a good musical ear be made perfect, but a poor voice, with a poor musical ear, and lungs of small capacity, may be considerably improved and rendered fit for difficult songs. When a good singing voice and musical ear are acquired, the greatest care must be exercised not to allow any degeneration, for acquired faculties are soon lost unless constantly kept up to the mark by regular practice. It should also be borne in mind that the organ of voice is a delicate article, and will not bear undue exposure to damp, cold, or sudden changes of temperature, and that the voice will be in good form exactly in proportion as the organ of voice is in good condition. Good voice is, also, to a great extent dependent on general good health and a regular manner of living. Late hours, irregularity in meals, tight lacing, &c., all interfere with a sound condition of voice. Unfortunately, young ladies, as a rule, cannot make up their minds to face an audience with a reasonably laced waist, but imagine that the tighter the lacing and, con-

sequently, the smaller the waist, the better will be the general effect. The consequence is that this class of vocalists are utterly incapable of proper abdominal breathing, and therefore entirely fail to give satisfaction to those amongst their audience who pay attention to the main part of the performance, viz. the rendering of the song, although, possibly, to the remainder who think more of the personal charms of the singer than of the singing, lively satisfaction is afforded by means of a small waist and slender figure.\* It is recommended that where practicable singing should always be indulged in midway between meals, and where this is not convenient, as, for instance, at a concert, where the voice is working for many hours together, a little beef tea should be taken during the interval between the first and second parts. Alcohol at such a time, should be strictly avoided, for the stimulating effect produced by this beverage is of short duration, and is always followed by a corresponding depression, which will evidence itself as much in the organ of voice as in other parts of the body. Although alcohol is strictly forbidden, the use of tobacco, unless it causes expectoration, may be indulged in in moderation. Expectoration causes undue exercise of the salivary glands, and does harm to the voice if persevered in, by causing dryness of the throat and indigestion. All stimulants, such as pepper, mustard, &c., should be avoided for the same reason that alcohol should, if a steady and good singing voice be aimed at. The ailments usually affecting the organ of voice are relaxation, dryness, congestion, and inflammation; and these may be, and, in fact generally are, brought on by ordinary cold. The greatest care, therefore, should be taken not to catch cold in these parts, and not to neglect one when it is contracted. Damp, foggy, and windy nights should be avoided where possible, and, if obliged to go out into the open air on such nights, a respirator should be worn. There is no need for ladies to wear an objectionable-looking respirator, since the invention of the respirator-veil by Mr. Lennox Browne, for this elegantly designed article answers the purpose of a respirator quite sufficiently and may be obtained from Messrs. Marshall and Snellgrove, through any retail house. Men must be content with the old-fashioned respirators, unless they are disposed to take to wearing veils. Before concluding this short essay, I will take the opportunity of cautioning vocalists and public speakers against using indiscriminately the patent throat-lozenges one sees advertized in every newspaper. I have no wish to denounce lozenges as a remedy, but merely to state that while some lozenges, taken at the proper time and in a proper manner, undoubtedly do good, others, indiscriminately taken,

do infinite harm. For persistent hoarseness I have found Mackey's Lubricating Lozenges (Mackey & Co., 1 and 2 Bouverie Street), very useful and comforting, and, moreover, quite harmless. I wish I could say the same for all the patent lozenges I have met with. The patent gargles and paints, which are so often administered by retail druggists as certain cures for all conditions of voice, are to be avoided. These are even more injurious than lozenges.

#### BRITISH WINTER HEALTH-RESORTS.

At this season of the year, when those with delicate chests and throats, are on the look out for suitable places in which to pass the next few months of their existence, it will not be inappropriate to point out the advantages and disadvantages of the various health-resorts in this country.

In choosing a suitable locality for winter residence, a thorough understanding of the isothermal lines of Great Britain and Ireland should be first of all arrived at, without which the value of the various health-stations cannot be properly appreciated. The isothermal lines are those lines which run through various localities all possessing the same temperature, and they vary in different months. Thus the isotherms of the British Isles in January run in a direction from north to south, whilst those in August run in a contrary direction from east to west. Commencing at Land's End, the August isotherm of 62° Fahrenheit, embraces all that district between the coast line of the English Channel, on the south, and a line running from Penzance, through Bath, Buckingham, Ely, and Lowestoft, on the north; the next August isotherm of 61° runs from Milford Haven through Birmingham to Boston; the next, 60°, runs from Limerick, through Dublin and Blackpool, to Bridlington; that of 58° runs from the north coast of Ireland, through the Isle of Arran, to Berwick-on-Tweed; and that of 56°, through the Isle of Skye, and the county of Ross to Tarbatness. The January isotherms run in the following manner:—that of 49° from Tralee through Cork, Youghal, Launceston, and Dartmouth, to the Island of Jersey; that of 40°, from Londonderry, through Enniskillen, Roscommon, Thurles, Maryborough, east of Mullingar, Armagh, Lurgan, Strangford, Llandudno, Shrewsbury, Worcester, Gloucester, and Salisbury, to Portsmouth; that of 39°, from Lerwick, through Kirkwall, Strathy, Greenstone Point, Point of Aird, Island of Coll, Crinan Canal, Ayr, Dumfries, Wigton, Kendal, Clitheroe, Manchester, Stafford, Oxford, Reading, and Horsham, to Eastbourne; and that of 38°, from Inverness, through the Caledonian Canal, to Fort William, thence through Lock Katrine, east of

\* Mr. Lennox Browne on *The Singing Voice*.

Glasgow, Lanark, Hexham, Darlington, York, Retford, Oakham, and Bedford, to Chelmsford. Thus it will be observed that in summer time the warmest parts are along the southern counties, and that the more north we go the cooler it becomes; also that in winter time the warmest parts are in the south-western corners of England and Ireland, and that the more we proceed in a north-easterly direction, the cooler it becomes. These facts ought to be well mastered before proceeding further with the subject, and it would be well were the reader to mark down the course of each isothermal line on a blank map, and thus become familiar with them. After fairly mastering the courses of the different isotherms, we should proceed to investigate the local features of those places situated on similar isothermic lines, with a view to arriving at a correct estimation of the value of each as a health-station. The relation of each place to the surrounding hills and plains, the distance of each from the sea coast, the height from the sea-level, the difference in the range of temperature, the rainfall, and the aspect of each, whether open to the north, south, east, or west, and whether in a sheltered or exposed situation, should all be carefully considered. It is quite possible to meet with two places of similar mean temperature, one of which is well sheltered by high hills from the north and east, and the other of which is exposed both to the north and east, by having on those sides a vast level plain. The difference in value of these two places to a consumptive individual would be enormous. Then, again, we might very easily find two places of similar mean temperatures, one of which had a range of 27° and the other a range of 33°, or one an average rainfall of 25 inches, and the other of 45 inches. The difference in value of these places would also be enormous to a delicate person. Of all the British health-stations, I think we may safely place Hastings and St. Leonards at the top of the list. They are well sheltered from the north and north-east by a high cliff, although slightly exposed now and then to the east wind, and are built upon a sand foundation. The mean temperature is 39° Fahrenheit, the range is 33°, and the winter rainfall about 7 inches. Next on the list may be placed Ventnor, with its mean temperature of 41·81°, its range of 29°, and its winter rainfall of about 4 inches. It is built on a very permeable soil, in a number of terraces facing the sea, and open to the south, south-east, and south-west winds, and well sheltered from all other winds by the cliffs behind the town. Bournemouth comes next on the list, and owes its celebrity as a health-resort partly to the fine grove of fir-trees which act as a protection to the town, and fill the air with fragrance, and partly to its great depth of sandy soil. It is also protected by distant hills, has a mean temperature of 42·38°, and an annual rainfall of about 28 inches. The

next in order is Torquay, which is celebrated for its exquisite scenery, and has a mean temperature of 44°, with a range of 29°, and a winter rainfall of about 6 inches. This beautiful town is built on slate and limestone, on a series of hills, is well sheltered from the east winds, has the highest winter temperature in England, and, with the exception of Penzance, enjoys the greatest equability. Of these five stations, it has been stated on good authority\* that at Torquay the appetite is as a rule the worst, and cod-liver oil not well taken; and that as we proceed in an easterly direction along the coast, there is a gradual improvement in both these conditions, until at Hastings the appetite is usually good and cod-liver oil well taken. These points should be borne in mind; and, moreover, a good deal depends upon what particular cod-liver oil is used, whether prepared in a suitable or unsuitable form. The best preparation we have met with is the "Mistura Olei Morrhue," or "Emulsion of Cod-liver oil," prepared and sold by Messrs. Mackey, Mackey, & Co., of Bouverie Street, E.C., and which is perfectly tasteless and easily taken by the most fastidious people. Of course, it must be understood that the foregoing remarks relate to the generality of delicate people; and that there are numbers who would progress at Torquay or Bournemouth, but would rapidly get worse at Hastings, and *vice versa*. Those patients who require a mild, sedative atmosphere, would do better to try Torquay, whilst those who require a rather stimulating but equable climate would be better suited at Hastings. The advice of a physician should always be sought before deciding upon such a step as a visit to a winter health-station, for everything depends upon the exact condition of the patient's health at the time. Leaving the south coast and proceeding toward the Bristol Channel, we come to Westward Ho and Ilfracombe, which have winter climates very similar to that of Bournemouth, with the exception that they are exposed to the north. The whole Welsh coast, as far as Llandudno, is favoured in January with a similar climate, and between St. Davids and Bangor, enjoys the valuable protection of the Welsh mountains on the east side. Southport is a remarkably relaxing climate, having, in January, the same mean temperature as Eastbourne. Blackpool, although enjoying the same mean winter temperature as Southport, is a remarkably stimulating place, and too exposed to the north and east to be much sought after as a health-station. The remaining part of the English coast will not afford any resting-place in winter for people with delicate lungs or throats. In fact this may be said of the whole district to the east of a straight line drawn

\* Dr. C. T. Williams on *The Influence of Climate in the Prevention and Treatment of Pulmonary Consumption*.

from Carlisle to the east side of the Castle hill at Hastings. In Ireland, the coldest portion during the month of January is the north and centre, which, however, is rarely colder than Eastbourne; and the warmest, the extreme south-west. The east, south-east, and west coasts enjoy a winter climate corresponding with that of Bournemouth, the latter having the additional advantage of being mostly well protected by high hills on the east. The whole of the west coast of Scotland enjoys a very mild winter climate, somewhat similar to that enjoyed by Eastbourne; and has, moreover, the great advantage of protection from the east, by high mountains along nearly the whole of its extent. The east coast of Scotland in January has a climate almost exactly like that of the east coast of England during the same month. For people with delicate chest, the west coast of Scotland, with all its disadvantages, is infinitely preferable to any part of the east coast of England during the winter months. The great disadvantage in connection with the west coasts of Scotland, Ireland, and Wales, is the remarkably high average rain-fall. It is this that will always render them inferior to the English south coast stations as health-resorts.

#### TREATMENT OF INFANTILE EMERGENCIES.

DISEASES of infants commonly manifest themselves suddenly and at awkward moments, when it is almost impossible to procure medical aid; and it thus behoves mothers to make themselves as far as possible equal to such emergencies, that no time may be lost in treating what are always rapid affections. In many cases, instead of the little sufferer being benefited by prompt remedies, the malady is increased, or an awkward complication produced by delay or wrong treatment. A few rules will be here laid down for the treatment of infantile disorders, to be followed in cases of emergency before the services of a medical man can be procured. Very young children are very subject to *hiccough*, *wind*, and *vomiting*, the first of which may be quickly relieved by a small quantity of infusion of ash-leaves, or a little aniseed, and by rubbing the stomach with a warm towel. Wind causes great pain, and may also be relieved by application of hot flannels to the stomach, and, in addition, a couple of grains of bicarbonate of soda, with a little peppermint, may be given. Vomiting generally "looks worse than it is," and is simply a rejection of the milk taken by the babe. A superfluous quantity of milk rejected from the stomach, as a rule, does the child no harm, but makes it easy. If the vomiting be excessive, a little carbonate of soda may be given until the doctor arrives. Should the vomiting be accompanied by diarrhoea or emaciation, no time should be lost in calling in a doctor, as these com-

plications are grave. *Colic* sometimes attacks young children, and may be recognised by the child twisting about and crying, and having an anxious and pained expression. In such a case there is generally constipation, and an aperient is necessary. Also the bowels should be well fomented with hot flannels. *Diarrhoea* is a very serious and oftentimes rapidly fatal disease, especially in hot weather. In mild cases the stools are neither green nor watery, but in severer cases there may be a continual draining of watery motion, accompanied by vomiting. Teething is a common cause, but often it is produced by bad smells, heat, or improper food. The cause should be first of all ascertained, and, if possible, removed. A little chalk medicine should be given, and the doctor summoned as quickly as possible. If teething be the cause, the effect vanishes after the teeth are cut, but this may take some time, and the child should be carefully watched in the meantime. *Thrush* is a very common ailment of infants, and is known by the appearance on the tongue and palate of little white vesicles, clustered together, and presenting an appearance like curdled milk. This is almost always due to bad diet or bad hygiene, but sometimes is a symptom of serious disorder. When not of a serious character, a little borax and honey should be daubed round the mouth and tongue, and the diet should be modified. *Bronchitis* is another common complaint amongst young children, and always requires early medical treatment. Before the doctor arrives, if the baby have difficulty in breathing, a few drops of ipecacuanha wine may be given, which will cause vomiting and thereby relieve the patient. It should be kept in a warm room in its cradle, and care should be taken that it is not in a draught. *Convulsions* may attack a child, and are caused by indigestion, teething, worms, &c. The treatment consists in finding out the cause and removing it; and in case the doctor is not to be found at once, the child should be put into a warm bath up to its breasts, and then well dried and wrapped up in a blanket; cold applications should be applied to the head, an aperient given if necessary, and mustard poultices applied to the calves of the legs. *Cuts* and *bruises* should be treated with cold-water applications, which will generally stop the bleeding quickly, and the part should be carefully bound with a linen-binder. *Burns* may prove very serious if not attended to at once, and nothing is better or more quickly applied than whitening and vinegar mixed up with a little water, or olive-oil and lime water, spread on rags, which should be laid on the sores so as to exclude the air. *Fish-hooks* and *crochet-needles* are sometimes caught in a child's finger, and it must be remembered that they cannot be extracted by attempting to pull them back again. They should be pushed forward so that the point can make its exit as nearly

as possible to the place of entrance, and the point should then be broken off, when the needle or hook can be readily withdrawn. Of all the causes of children's complaints, not one is so common as improper feeding. Infants ought to be fed regularly, at stated times, and should always have the food provided for them by nature if possible. In cases where the natural food cannot be obtained, some substitute should be procured as nearly as possible like it, a mixture of two parts of warm water to rather more than one part of cow's milk, with a little sugar, being a good substitute for a child a month old. This should always be given by means of a feeding-bottle, care being taken that the mixture is as warm as mother's milk and freshly prepared for each feeding-time, and that the bottle is thoroughly cleansed each time. Another very frequent cause of infantile disorders, especially diarrhoea, is defective drainage, and this is the more dangerous on account of the difficulty of discovering it. Let all mothers take care that there is no *direct communication* between the sink-pipe in the kitchen and the main sewer, and also that the pipes are *properly trapped*. Sink-pipes should be taken to the outside of the kitchen wall and continued by an *open drain* into the main sewer, so that no bad gases can travel along the pipe from the sewer into the kitchen.

#### REVIEWS.

*The Human Body and its Functions* (Hodder and Stoughton), by H. Sinclair Paterson, M.D.—This book consists of a second course of lectures delivered in the Lecture Hall of the Young Men's Christian Association, 165, Aldersgate Street, from January to March 1880, and is intended to form an introduction to the study of physiology. The work is divided into eight lectures, on the following subjects, viz. the organism; the tissues; the preparation of aliment; the conveyance of aliment; removal of waste and noxious products; the nervous system; the special senses; and evolution and application of energy. The subjects are well dealt with, and must be interesting to all who read the volume, especially to the unprofessional public, who will find an agreeable absence of technical terms throughout.

*Skin Eruptions, their Causes and Prevention* (W. H. Allen & Co.), by H. J. Hardwicke, M.D., F.R.C.S., M.R.C.P.—This little volume consists of a treatise on this subject, which originally appeared in parts in this journal, and will be found very useful reading. It will be especially valuable to those who have any family predisposition to skin disease, as there are given a number of very useful hints concerning the preservation of the skin in a healthy condition. There are also contained many good suggestions for keeping school-children free from skin diseases of an infectious or contagious nature. We recommend

Dr. Hardwicke's production as a very cheap and useful treatise.

*Mackey's Coal Tar Soap*.—This soap is prepared by Messrs. Mackey, Mackey & Co., of Bouverie Street, E.C., and from our personal experience of it we can very highly recommend it to the public. There are many kinds of tar soap brought before the notice of the public, most of them valueless, though some are reliable preparations. We have tried several, and are decidedly of opinion that Mackey's Coal Tar Soap will give very great satisfaction. It should be used regularly by those who suffer from scaly eruptions, or rough, harsh skins.

*Mackey's "Saxcere Alba"* is a preparation by the same firm, and has a great reputation for giving prompt relief to chapped hands and faces. This we can also recommend as being a genuine and useful preparation; and, judging from what we hear, it needs only a trial to ensure regular use. It is perfectly harmless, and may be used with impunity for any length of time.

**HACKNEY SMELLS.**—We learn from the *Medical Press Circular*, that the inhabitants of Hackney have for a period been suffering from the existence in their midst of constant evil smells and exhalations, the origin of which has not yet been satisfactorily determined. The medical officer for the district, Dr. Tripe, has again and again had his attention directed to these exhalations, but no action has yet been taken either by the local or Metropolitan boards to put an end to the nuisance. Several letters have appeared from inhabitants of Hackney, who not unnaturally loudly complain of the danger they suffer from the ill-smelling exhalations they are compelled to breathe day after day. From certain of these epistles we should infer that a good deal of the mischief is due to the building of houses on "made" foundations, the material of which the sub-soil consists being largely made up of decomposing refuse from all manner of situations. In other towns, this has been found to be the cause of even serious outbreaks of illness, and there is a good deal to point to a similar origin for that which has occurred in the Hackney district. In some places, however, open ditches, serving in part as drains, are distinctly mentioned; from these it need hardly be suggested, the seeds of disease may with ease and certainty be disseminated; and judging generally from the complaints that have been published, there is every reason for insisting on a searching investigation into, and a speedy removal of, the causes which are to blame for the present uncomfortable state of affairs.

**PORK AS FOOD.**—From time to time we hear of epidemics from the incautious use of improperly-



cooked pork which has been infected with the trichina larva, and it had been assumed that this was the chief danger attendant on the consumption of the flesh of the pig. The Leicester police court, however, was lately the scene of an inquiry, in the course of which facts were made known in the face of which consumers of pork pies may well feel called upon to exercise special caution in future dealings with purveyors of these delicacies. At their best, pork pies are not the most digestible articles of food; but when these confections are prepared with pork in a state of putrescence, the result is abominably nasty, and exceeding likely to prove poisonous. It is therefore with great satisfaction we hear of at least one recent magisterial judgment, by which a heavy penalty has been inflicted upon conviction of the offence of using putrid pork in pie-making. If the public knew, or only suspected, the filthy way in which much of the food sold for their delectation is prepared, the trade in eatables which are so compounded as to be unrecognisable would be very limited. A meat pie may be made of anything. It is not enough to say that if it tastes fairly well the question of its manufacture may be left in obscurity. It is quite possible so to spice and pepper a pie that its component parts may be placed beyond the reach of detection. And yet the unsuspected pie may do infinite harm. When once putrefaction has commenced in flesh, it will proceed, unless very thoroughly cooked, which seldom happens to the meat in a pie; and if a small morsel of putrefying meat be introduced into the stomach, and digestion be from any cause delayed, so far as that particular morsel is concerned, it cannot fail to set up most mischievous changes in all the dead organised matter with which it is in contact. It is satisfactory to know that a lesson has been forcibly taught to the defendant in this action, the bench having sentenced him to imprisonment, without hard labour, for two months; and it may well be hoped that this will convey a warning to all other purveyors of pork pies, if there be any, who are not in the habit of being over particular.

**"OLD MEN AND COLD WEATHER."**—Under this heading attention has been drawn, by the *Lancet*, to the defective arrangements for heating and ventilating certain of the wards of workhouses, particularly those used by old men. Two of the guardians present at a recent meeting of the Chelsea Board declared that they went round "the very day" which was made the occasion of complaint—namely, the 5th of October—and "a slight draught was noticeable in the corridor." What may have seemed a "slight draught" to strong, well-fed, and well-clothed men, doubtless wearing their hats and probably overcoats, is not unlikely to have been much more to the poor aged folk in the workhouse.

It is by no means reassuring to those who know how official visiting is conducted, to be told that everything is as it should be, or nearly so. We would far rather take the testimony of the paupers themselves than that of any member of the Board of Guardians as to the fact of cold. Coldness, as a subjective feeling, implies either nervous depression or loss of animal heat. It may sometimes be difficult, in any special case, to determine which of these two modes of production has given rise to the result, but the remedy is the same under either condition. There ought certainly to be a fire to gladden the sight, as well as to warm the bodies, of the aged poor. A room without a fire is comfortless, and although the "able-bodied" paupers in a workhouse may be denied comforts, it is intolerable, and not to be permitted, if public opinion has any weight, that the old people in any Poor Law establishment should be similarly treated. There is a sort of inhumanity which consists in doing things unkindly. This inhumanity is a too common characteristic of pauper relief, and, unfortunately, persons who are not themselves inhuman seem to the manner born when once they become guardians—that is, guardians of the poor-rates rather than guardians of the poor.

**SMALL-POX AT A MASKED BALL.**—The record of an outbreak of small-pox among a factory population in West Troy very completely illustrates how recklessly the contagion is apt to be spread among the common people, and how promptly great employers of such people may take action which shall stamp out such an epidemic. Eighty persons were present at a masquerade party, and after several hours, when the company sat down to supper unmasked, it was discovered that one young woman had small-pox eruption on her face; but, instead of at once dispersing, the company continued their revelry until morning. The result of this wanton and culpable exposure was that twenty-two of the eighty individuals were attacked with the disease. As these cases all occurred in families of *employees* of a certain firm of manufacturers of woollen goods, the firm at once closed their mills, and ordered all persons employed by them, in whatever capacity, to be vaccinated; enforcing the order by insisting that no individual should continue in their employment without presenting a certificate from a physician showing that they had been vaccinated, even though they might have had small-pox itself. The same emphatic orders also extended to the most thorough purification and disinfection of all dwellings in the place, and the consequence was that the outbreak was suddenly and completely terminated. Twenty-two cases resulted from exposure in the dancing-hall, and eleven persons contracted the disease from exposure to these cases, while only one case occurred



outside of the families thus exposed. Five of the whole number of cases were very severe, but none of them proved fatal.—*Sanitary Record*.

**ADULTERATION OF BUTTER.**—In a German technological publication of high repute, it is positively and circumstantially stated that in America butter is adulterated with powdered talc. We have some difficulty in believing this, though such adulteration is just possible, seeing that talc is one of those magnesian minerals which are unctuous or greasy to the touch, like soapstone. If such adulteration is perpetrated, it may be easily detected, says the *Grocer*, by simply melting some of the suspected butter in any glass vessel—a common phial will do, or a lactometer-tube, or a test-tube. If any of this mineral or soapstone, or any other similar adulterant is there, it will settle down to the bottom if time is allowed. In order to thus give it time, the phial or tube should be immersed in hot water, and the heat of the water maintained for an hour or two.

**HEADACHES.**—The approach of the winter season will, with a large number of people, be inaugural of a recurrent headache, for which they are unable to account at all satisfactorily, but which experience has taught them to expect as surely as fires and "snugness" are rendered necessary to personal comfort. It would be well if all such sufferers were to understand the *rationale* of the complaint that periodically attacks them, and be wise in time to ward off the return of their old malady. In every case where the headache is not dependent on some internal disease, and when it is felt only during the colder months of the year, especially in large towns, it is undoubtedly due to the vitiated atmosphere of rooms lighted by gas, and rendered "snug" by close-drawn curtains and draught-excluding doors, while a brilliant fire is maintained for heating purposes. This latter is, indeed, the only preventive under the circumstances, of an absolutely poisonous condition of the air, which is very seriously contaminated wherever a gas-light is employed for illumination. Careful observation of the effects gradually produced by prolonged continuance in such an apartment, will reveal the fact that a feeling of oppression, becoming gradually more intense, steals over one; and in an increased degree accordingly as the number of occupants of the room is added to. The atmosphere becomes thus heavily laden with carbonic acid, the products of combustion of the gas and of the human tissues; failing any free ventilation this rapidly accumulates, an insignificant amount alone finding exit by the chimney, and acting on the nervous system of those using the room, induces cerebral congestion that results in serious disturbances, which are relieved only after a

more or less painful period of indisposition. The remedy for the evil is in efficient and constant ventilation, a necessity that every householder should see is secured in all the rooms of his dwelling before they are transformed into winter habitations.—*Med. Press Circ.*

**GROWTH AND WEIGHT OF CHILDREN.**—We gather from the *Sanitary Record* that some interesting studies with reference to the health and growth of children have been made by Dr. Boulton, of the Samaritan Hospital, London. Instead of taking the average of a large number of children measured once, he adopted the plan of measuring a number of children of normal growth, brought up under average circumstances, many times, thus ascertaining their rate of increase. By this means, the annual rate of growth was found to vary between two and three inches for each child per year. Dr. Boulton believes that when a child varies more than a quarter of an inch annually, or when the increase of weight does not correspond with the weight within a margin of safety—put at seven pounds—then it is safe to conclude the child's diet is not good, or possibly some disease is lurking in his system. The curious fact appears that loss of weight always precedes the development of consumption.

**ABSINTHE-DRINKING.**—The consumption of this seductive, health-destroying liquor appears to be on the increase, and it is now, according to Mr. Winter Blyth, sold in a large number of places in Marylebone, for which parish he is the public analyst and medical officer of health. It seemed to him, therefore, a right and proper thing to chemically examine samples of this liquid, which was done. Absinthe is a yellowish green liqueur, which contains, as a peculiar ingredient, a poisonous oil having a deleterious effect on the nervous system; the oil is called wormwood oil, and is produced in nature by the *Artemisia Absinthium*. Other flavouring oils are always added, such as peppermint, angelica, cloves, cinnamon, and aniseed. The colour is produced by the juice of nettles, spinach, or parsley; or, in other words, is due to the common green "chlorophyll" found in all green plants. Most samples of absinthe contain sugar. The average composition of absinthe is as follows: Absolute alcohol, in 100 parts, 50.00; oil of wormwood, .88; other essential oils, 2.52; sugar, 1.50; chlorophyll, traces; water, 45.65. Alcohol causes drunken sleep; alcohol and absinthe combined produce convulsions. The poor wretches given up to absinthe-drinking suffer from a peculiar train of nervous symptoms, the most prominent of which is epilepsy of a remarkably severe character, terminating in softening of the brain and death. The last moments of the absinthe

drinker are often truly horrible. M. Voisin records a case in which a man was picked up in the public street in an epileptic fit. He was known to be a large consumer of absinthe. The convulsions lasted until death—four days and four nights. During the last five or six hours of life, the skin of the face became almost black.—*British Medical Journal*.

**THE PENALTIES OF MILK ADULTERATION.**—At West Hartlepool two heavy penalties have been inflicted by the county magistrates for milk adulteration. In the first case a farmer, charged for the third time with the offence, was fined £50 and costs, or three months' imprisonment. In the second the fine was £10 and costs, or six weeks' imprisonment. If magistrates would more generally treat persons convicted of milk adulteration with similar justifiable severity, the dishonest practice would probably not continue to so great an extent as it does.

**ANOTHER MEDICAL VICTIM TO DIPHTHERIA.**—Dr. Foulis, of Glasgow, has just died from the effects of an attack of diphtheria, brought on by exposure to infection whilst attending a patient. This is another example of the dangers medical men run in the arduous discharge of their duties.

**HABITUAL DRUNKARDS.**—The Lord Mayor has placed his influence and the Mansion House at the disposal of those who try to work the Habitual Drunkards Act of 1879, which, as our readers know, is a permissive Act. It sanctions the detention of those drunkards who are willing to place themselves under the restraint of Retreats. The special object of the late public meeting at the Mansion House was to inaugurate on a popular basis and a self-supporting principle a model licensing home for the cure of habitual drunkards. Dr. Cameron divided habitual drunkards into three classes: first, those willing to go into Retreats, which, in America, he says, is the case with ninety per cent. of the habitual drunkards; those whom it is most desirable to put into such cases but who are unwilling to go, and, thirdly, criminal drunkards. It is thought that if a model home were established it might give rise to similar institutions in other parts of the country, and that it would, at any rate, constitute an experiment that would be valuable and interesting in view of the temporary character of the present Act, which is to expire at the end of ten years. We should be very much surprised to see it proved that English habitual drunkards were amenable to reason in the proportion of ninety per cent., as in America. Besides, as Dr. Cameron pointed out, the time, ten years, is far too short to induce persons to expend capital in such an adventure. We confess to having no respect for such legislation. It is in the highest degree discreditable, and we are not sure but that the best way

of getting legislation worthy of the name, and proportionate to the gravity of the subject, is to ignore the Act of 1879 altogether.—*Lancet*.

**CURIOUS COSMETIC INVENTION.**—In Paris false ears are a new manufacture for the toilet. Ladies who think they have ugly ears place these artistic productions under luxuriant tresses of false hair, fasten them to the natural ears, and wear them for show. False hair, false teeth, false breasts, false hips, false calves, false ears—what next?

**CREMATION IN DENMARK.**—Cremation appears to be flourishing in Copenhagen. At a recent meeting of the Cremation Society of that city, it was reported that it counted 1,409 members, among whom were 88 physicians and some prominent clergymen. In the furnace projected by the Danish society, corpses are to be reduced to ashes in a little over one hour; and it is calculated that the cost of incineration will be reduced to the insignificant sum of from three to five crowns—between four and seven shillings. It is stated that this economical feature of the project has met with great favour among the poorer classes, funeral expenses being high in the Danish capital. Why do we not follow in their steps?

**A REVOLUTION IN THE LIGHTING OF HOUSES.**—M. Kordig, of Hungary, recently exhibited in Paris a curious illuminating liquid. It was a very light and volatile hydro-carbon, presenting the following remarkable qualities:—

1. It is volatile at ordinary temperatures, and boils at the temperature of the hand.
2. It burns equally well at a relatively low temperature.
3. It produces a white light which is more beautiful and has greater illuminating power than the same volume of gas.

M. Kordig, in order to show that the new liquid need cause no fear of fire or of explosion, poured a large quantity of it on his hat and then set it on fire. The flame rose to the ceiling; the exhibitor placed the hat on his head, and wore it until the flame died out. The hat was found to be uninjured. Handkerchiefs, light-coloured gloves, and silk ribbons were then dipped into the liquid and set on fire. They remained unhurt by the flames.

According to the inventor, this interesting substance is an essence of naphtha. It has a slight smell not at all disagreeable, and has a trace of ether in its composition. When placed upon the hand it gives a sensation of cold. This new mineral essence is said to come from the wells of natural oils recently discovered in Hungary.—*Journal d'Hygiene*.

**TO DETECT ARSENIC IN FABRICS.**—An easy method for detecting the presence of arsenic in paper-

hangings, &c. is given by Dr. Henry Barnes, in the *Practitioner*, viz. Immerse the suspected fabric in strong ammonia (water) on a white plate or saucer. If the ammonia becomes blue, the presence of a salt of copper is proved; then drop a crystal of nitrate of silver into the blue liquid, and if any arsenic be present the crystal will become coated with yellow arseniate of silver, which will disappear on stirring.

**POISONING BY BITTER ALMONDS.**—In the *British Medical Journal*, July 2nd, was published a full report of a case in which alarming symptoms arose soon after eating a quantity of bitter almonds. The nuts themselves do not, as is well known, contain prussic acid; but, when triturated in mastication, and subsequently mixed with a watery fluid, as in the stomach, the poison is evolved. The patient in this case presented the symptoms ordinarily attributed to prussic acid poisoning—namely, insensibility, convulsions, and rapid failure of the heart. For some time, the man's state appeared to be quite hopeless, but the vigorous treatment resorted to was happily finally successful. The poisonous properties of bitter almonds, which are well exemplified by this case, cannot be too widely known, as "almond flavouring," or the almonds themselves, are frequently used in cookery.

**EXTRACTING TEETH WITHOUT CONSENT.**—A new branch of burglary has been opened in Chicago. A young lady went to a dentist's shop to have five teeth extracted. Having put her under the influence of gas, he drew fifteen teeth from her upper jaw. She sued him for damages, he pleading that the teeth all needed pulling out. She denied this, but as the dentist had the teeth she could not prove her case, and the dentist would not produce them in court. Therefore the jury, evidently thinking that the dentist knew better than the young woman whether her teeth needed pulling out or not, disagreed, and she could not recover. Hers, it appears, was not the only instance. Several young persons had been subjected to the same involuntary dental bereavement in the same establishment, with a view to compelling the victims to buy false teeth.

**POISONING BY NICOTINE.**—It is reported by the Inspectors of Reformatories in Ireland, that during the year 1880, one boy was accidentally poisoned by nicotine. The evidence taken at the inquest on this boy showed that he was given a quantity of tobacco by his mother when she visited him, and that he was poisoned by the excessive use of the narcotic acting on a weak heart.

A DOCTOR who had continued his visits on a wealthy lady for an inordinate time after convalescence had set in, was somewhat surprised one day at being told by the servant that madame could not see him that day as she was ill.

## CORRESPONDENCE.

To the Editor of THE FAMILY DOCTOR.

SIR,—Can you or any of your readers inform me what becomes of the boys and girls who leave the Foundling Hospital when grown too old to remain there? I shall be glad of a reply as soon as convenient to you.

Sir, yours truly,  
SUBSCRIBER.

[We believe that Foundling Hospital children are usually apprenticed to masters and mistresses. At sixteen years of age the girls generally enter domestic service for a term of four years; and at fourteen years of age the boys are bound to mechanics for seven years, except such as volunteer for the army or navy.—Ed.]

To the Editor of THE FAMILY DOCTOR.

SIR,—I have heard a rumour that the death of the late Dean Stanley was due to the badly sanitated condition of the Deanery. If such is the case, it would not be inopportune to notice it in your valuable columns with a view of calling the attention of the proper authorities to such a fearful state of things. We cannot afford often to lose such men as Dean Stanley. I hope you will pardon the liberty I take in making this suggestion, but I feel it to be due to the public that the matter should be taken up.

I remain, Sir, yours truly,  
J. H. D. SUBSCRIBER.

[We have ourselves heard of this rumour, and believe there is some truth in it, though we cannot vouch for the accuracy of the statement. It has been stated to us that the Deanery is now undergoing a thorough examination, in consequence of the rumour. You may rest assured that such a rumour will not spread far without being productive of prompt remedial measures, if they are necessary.—Ed.]

To the Editor of THE FAMILY DOCTOR.

SIR,—Will you allow me space in your valuable journal to call attention to the fact that there are now nine different cremation societies in Italy, and that in Rome, Varese, Pavia, Cremona, and Leghorn, there have been lately constructed new crematories. Also in Hungary cremation societies are in course of formation. Is it not high time that we stirred ourselves to promote similar movements in this country? One would think that the unhealthy and loathsome custom of interring dead bodies would be abolished in such an age as this, yet it is strange how people prefer to stick to old superstitions, even when loathsome and unhealthy, rather than leave the regular groove, or adopt new and healthier ways.

Sir, yours obediently,  
CREMATIONIST.

Miss Marsden.—We cannot advise you in such a matter, but recommend you at once to see your medical adviser, and state the facts to him. This is the only proper course open to you.

T. McG.—The question of colour blindness and deafness amongst railway signalmen is receiving the attention of the proper authorities at the present time. We shall probably refer to the subject at a future time.

Constant Reader, W. P. L. and R. G. have omitted to enclose cards.

All letters and other communications for the Editor should be addressed to him at the Publishing Office, and, if for publication, should be written legibly, and on one side of the sheet only. Communications relating to subscriptions and advertisements should be addressed to the Publishers.

No notice will be taken of anonymous communications unless authenticated by the name and address of the author, which need not necessarily be published.

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## THE FAMILY DOCTOR.

## WHO IS YOUR FAMILY DOCTOR?

By WILLIAM HITCHMAN, M.D., M.R.C.S., Fellow of the Royal Physical Society of Edinburgh, &c.

VERILY has this interrogatory been put to people within my hearing, times almost out of number, during the past half-century of one's medical experience, at home or abroad, and in various languages. And is it not a topic of the day now as ever? The title of "doctor," however, at the present time, has not the general significance of ability and learning it had in days of yore; and as for "physician," a license to practise as such has been given, or rather *sold*, in this country, without examination, nay, without even personal attendance in numerous cases, and what is, perhaps, incomparably more dishonourable to the vendors thereof especially, such "doctors" and "physicians" have become registered medical practitioners, albeit they were never examined in medicine proper during the whole course of their lives! The "family doctor," therefore, is *not* of necessity a graduate in physic or physics, nor is he, as a matter of course, a "physician," in any righteous, legal, scientific, moral, academic, or collegiate sense, as he ought to be, and as he is on the continent of Europe, but not, alas! invariably, either in Great Britain or the United States of America, and elsewhere. Again, a "family doctor," or the "family doctor," might belong to any one of many different sects—homœopathic, allopathic, hydropathic, magnetic, electric, botanic (*sic*). dosimetric, or what not, besides alienists, specialists, psychological physicians, and the rest. Indeed, an intelligent reader of the signs of the times, *medical*, must oft be reminded of the great Lexicographer's remark, to the effect that a physician is but the veritable play-thing of fortune in a large city; they who consult him know not his merits, and others who avoid him know not his deficiencies. For

myself, I am an advocate of enlightened liberty, whilst abhorring licentiousness, as I hate official despotism and the trades-unionism of tyrannic associations, as well as the arrogance and vanity of a dominant majority, whose mainspring is the merest expediency, or the promotion of narrow, selfish, personal interests,—

"With that half wisdom half experience lends."

I have only alluded to *this* subject, notwithstanding, as a topic of the day, and as one fairly belonging to a popular journal of Hygiene, or Preventive Medicine, which favours *no* exclusive party, let me hope, and wishes to show no partisanship, unless it be a desire, on behalf of the sick, or healthy, to befriending the oppressed rather than the oppressor. It seems to me that a scientific, well-read, observant "family doctor" might be of much greater service to mankind than he generally is, either in city or country, *if he superintended the physical education of a certain number of families* in each given area of population, and laid down practical rules, by precept and example, for the prevention rather than the cure of disease; emphatically, at the typical or physiological cras of human life, with a view to ensure the due performance of every function of the body, and of either sex, that may not be organically working, easily and naturally, alike for mind and matter, as with regard to the married, spinster, and celibate. Why does the public *wait* for an individual brain to be filled with mortal fancies, or the heart to be struggling with valvular flaws, the lungs to be solidified by tubercle, the air-tubes to be clogged with pus, the fatty liver to evolve jaundice, or become acutely congested, the gall-bladder to be overloaded with bile, or its duct impacted with calculus, the kidneys to undergo granular degeneration, the bowels persistently obstructed, and the temperature of health fast departing from the natural register of 98.6°, until it reaches that state of the body that may eventuate, *in the same house*, in seven different kinds of fever, with or without eruption on the skin or throat, namely, Febricula, Typhus, Typhoid, Scarlatina, Measles, Diphtheria, and Small-pox? Who cares about the poisonous influence of sewer-gas, for example, so long as the household is merely affected with some general feeling of *malaise*, or nothing more formidable occurs than ulcerated throats, vomiting, diarrhœa, glandular enlargements, &c., from atrocious drainage and bad supply of water? The "family doctor" must deal only with pronounced Diphtheria, Enteric Fever, Small-pox, or some equally grave malady, before drains of disease and death are known to pass under so fine a house, and so splendidly "located," and every possible connection has been facilitated between the "nice water-supply" for drinking purposes, and that which supplies some nasty closet; the sinks, moreover, have

never been properly trapped, the dustbin is plethoric with meat, bones, and vegetables, with no lack of manure heaps, and cess-pools to boot. Deformities of the spine and limbs, chest diseases, and scrofulous sores, abdominal phthisis, or other strumous complaints, are not unfrequently found in "colleges" for the middle and higher classes, in much the same ratio—probably more than 50 per cent.—as in the *most* ragged schools. Why are not Ling's scientific gymnastics taught and practised in "Establishments for Young Ladies," with some knowledge of anatomy, physiology, hygiene, the theory of baths, bathing, and hydropathy, as well as the signal benefits that are attainable by hydropathic appliances in the adjustment of temperature and preservation of health?

Obviously, there is room, and to spare, for the "FAMILY DOCTOR," also, as a monthly magazine, or storehouse for scientific stores of hygienic wealth, in form of social and sanitary science, useful medical knowledge, and literary correspondence, *without* "cases from practice by domestic physicians." At the same time, no man whose heart is as loving, or charitable and just, as his intellect is large and furnished, will ever stand in so false and humiliating a position as to prejudge or condemn an alleged fact, either in Therapeutics or out of it, when sound and sober testimony to truth is offered by the wise and good, even though he, she, or they, be *not* registered as a physician, surgeon, or apothecary, respectively. Withal, the words addressed by Apelles to a shoemaker have lost none of their sterling value; nor is it undesirable for the artist himself to continue his criticism of *painted* slippers, rather than coverings for the feet made of leather. What a vast amount of useful information may be given to the general public, for instance, not only on the normal and abnormal temperature of the human body at all ages, and under multiform conditions, but with regard to dietetic preparations, the management of the sick-room, involving nutritive or medicinal enemata, poultices, fomentations, inhalation, electricity, poisons and their antidotes, the physical evils of mental emotions, respiration and its results, use and abuse of *sectarian* diet, habits of life, clothing, tobacco, alcoholic drinks, mineral waters, outward applications of all sorts, disinfectants, or deodorizers, the Continental springs, high elevation, surrounded by mountains, in certain diseases the best air, most refreshing climate, and the like, each having its place and its power, scarcely less important than drugs and chemicals. No matter, then, is it, "Who is *your* Family Doctor?" So long as he has a mind sufficiently catholic, or a brain so duly cultured, that he will not only study *your* "case," scientifically and philosophically, whenever requisite, from accident or disease, but will gain hints from all systems, or methods of treatment,

that are commended by adequate inquiry and sound experience, with a view to lengthen your life by promoting your health and happiness? Any departure from the legitimate modes of logic, reason, experiment, and *reiterated* demonstration, ends only in fashion the most extravagant, or folly the most insane. Without comprehending the grand divisions of the nervous system, without a notion of the distinct properties of the individual nerves, or having made any distinction of the columns of the spinal cord, without even having ascertained the difference of cerebrum and cerebellum, a *quack*—"on the stump"—may proceed to describe the brain as composed of many particular and altogether independent organs, and to assign to each the special residence of some spiritual faculty. In like manner, if a "family doctor," or *the* "family doctor," possess wealth or position so high and colossal as virtually to realise the most luxurious oriental dream, his boasted method of superior "orthodox" practice, and baseless condemnation of other benefits or blessings, of which he has had no practical knowledge or bed-side experience, is worthy only of the vulgar pastime of a modern Sybarite, and may be passed by with that sort of philosophical indifference which belongs only to those who have awakened to a consciousness of *the duty they owe to the public*, as well as themselves; and if the greatest amount of happiness for the greatest number of people is the true rule of good government, most assuredly the greatest possible prevention of disease, and the largest amount of freedom from pain, or relief of physical and mental suffering, is the true rule of wisdom, genuine philanthropy, and social ethics, on a medical question.

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#### INFLUENCE OF THE CHANTEAUD SEIDLITZ ON LONGEVITY.

By DR. BURGGRÆVE, late Professor of Medicine in the University, and Principal Surgeon of the Civil Hospital of Ghent. Translated from the French by DR. H. A. ALLBUTT, Physician to Leeds Dispensary for Skin Diseases.

To inspire confidence and obtain hearers, one should give an example.

I intend to do so.

I shall ere long have reached the age of seventy-five, and those who know me find that I carry lightly my numerous years.

In an existence so long I have reflected much on the question of longevity, and I have recognised that this was not an insoluble problem.

Until my time people have had a Platonic love for life; that is to say, they have done nothing practical to preserve it.

Sobriety (in other words abstinence), such was the virtue which was preached, even by those who

did not practise it (unless under great compulsion) : as the Venetian senator, Luigi Cornaro, who wrote a treatise on sobriety, after a very stormy youth, and thus proved that sobriety is not the sole means of attaining long life.

It is intended that all the good things of life should be used and not abused.

"Use, and do not abuse," such is the precept of Hippocrates ; and the good father of the family is not forbidden the extra Sunday enjoyment.

Such has been uniformly my rule of conduct, and I am thankful thereby to have reached a good age.

I can therefore say to my readers, *Experto crede Roberto*.

But it is necessary that I enter here into some explanations, the subject being well worth the trouble.

"We are," said Voltaire, "really and physically, like a perpetual current. It is the same river, as concerns its bed, banks, and source ; but its water, which constitutes its being, changes every moment ; there is no identity, no sameness in this river."

We constantly are renewing our water, or our nutritive fluids. The substance of our organs equally changes ; it does not remain fixed in one place, but is carried about through those channels or windings which distribute the fluids to all parts of our body.

Our moral character, in like manner, changes ; we are not strong enough to resist the fluctuations ; the surface of our vital stream being sometimes smooth, sometimes violently agitated, according as the weather is calm or stormy.

Who can dispute the influence of the bile on our temper ?

The courtiers of Louis XIV. understood him well, and before venturing to implore a favour, they consulted his physicians.

The whole system of longevity is based upon this principle of the reconstruction of the body.

A learned chemist has shown that, as age advances, our tissues become incrustated with calcareous salts, and thus life is arrested for want of that which Voltaire called "the perpetual current." Were it not for this (excepting accident), life would be indefinitely prolonged.

But let us take the *minimum*. Eighty or a hundred years, according to Buffon's law, should be a fair share !

Yet Haller, the great physiologist of the last century, has cited examples of longevity of a hundred and fifty and a hundred and sixty years !

But it would not be desirable to live so long, because we should be strangers to those among whom we resided, our nearest friends having departed. And perhaps such longevity would be found "*inopportune*."

A hundred years ! That would be a good average, acceptable by the whole world.

But how can it be attained ?

This is precisely where my system commences, and where the granulated Chanteaud Seidlitz is of undeniable utility.

*Action of the Chanteaud Seidlitz on the Bile.*—In the morning, on rising from bed, one experiences a certain heaviness, the movements are undecided, and the head embarrassed. If ever so little, the evening meal has not been thoroughly digested, the mouth is clammy, and there is a yellowish coating on each side of the median line of the tongue.

This indicates a bilious condition.

Indeed, the bile diffuses itself through the mucous tissues like a drop of oil. It is therefore necessary to clear the internal membrane. Water is not sufficient for the purpose, but *the salt* should be employed to dissolve and carry off the fatty materials of the bile. Almost immediately the mouth becomes cool, and the yellow coating on the tongue disappears.

One easily understands that this early morning clearing out will free one from those gastric disturbances which necessitate purgatives and dieting. What proves that this is the result of a simple washing out, is that, immediately afterwards, one can breakfast as usual.

The Chanteaud Seidlitz also forwards digestion, so that substantial food may be taken without fear.

Nutrition acts thus on the fresh materials, and our humours are renewed every day.

In this manner is accomplished the first condition of longevity.

*The Action on the Blood.*—The Chanteaud Seidlitz acts with as much certainty on the blood as on the digestive tube.

This salt increases the ruddiness and fluidity of the blood by forwarding its decarbonisation.

At the same time the albuminous materials are kept in solution, preventing arrests in the circulation and often consequent sudden death.

Cases are not rare where death has taken place, there being no apparent organic lesion. The illustrious Professor Virchow, of Berlin, the head of the School of Practical Anatomy, has shown us the cause—little clots of blood, or *emboli*, are carried along in the blood, rounding themselves in their course like the pebbles of the sea, blocking up the vessels, and so producing sudden death. "If this *débris* is voluminous," says Virchow, "the principal trunks of the pulmonary artery are obliterated, and there is instant asphyxia. Other very minute particles of the *embolus* may penetrate the finest arteries, and cause limited inflammations, miliary or otherwise, in the parenchyma."

The daily use of Chanteaud Seidlitz is of great

importance, in order to ward off pulmonary apoplexies.

The nature of this essay, and the kind of readers to whom it is addressed, will not permit a complete exposition of these questions; but, in the meantime, everyone will understand their importance.

Persons who are tormented by glairy discharges are deficient in the saline elements of the blood. Under this head, chemical analysis and experiment demonstrate great differences between individuals, according to their temperament; a blood rich in salts is less watery, is denser, and less subject to infiltrations.

Salt aids in the renewal of the blood; it is its presence which gives vigour to youth. We can compare those in whom the blood is not renewed, to those niggards who live constantly in the same atmosphere; they feel around them a want of freshness, and they grow old before their time.

The Chanteaud Seidlitz prevents obesity and fatty degeneration of our organs, principally of the muscles of the heart.

It is well known that persons afflicted with that disease are distressed by even slight movement, and are subject to shortness of breath (panting). They soon get rid of their infirmity, or have it considerably relieved, by taking every morning the Chanteaud Seidlitz.

A celebrated physiologist called the blood a "fluid flesh" (Barthez), meaning that good blood and sound muscles are synonymous. Now, it is not a matter of indifference to have firm or flabby muscles.

The action of the salt on the muscular system consists principally in rendering the contraction of the muscles more energetic, and thus liberating more heat and electricity. Now, heat and electricity are the two physical factors of life.

This can be demonstrated by experiment. The disengagement of heat in muscular contraction is equivalent to 2° or 3° Fahr. (1° c.); we may judge the enormous quantity of heat produced when the whole muscular system is in action. Now, lymphatic persons, that is to say, those who have but little of the saline elements in their blood, are soon fatigued; whilst the contrary holds good among those who have salt blood and firm flesh.

For many years I have made daily use of the Chanteaud Seidlitz, and to that circumstance I attribute the kind of youthfulness I continue to enjoy, notwithstanding age and an extremely anxious life; for, in the struggle for existence, we perceive the thorns more than the roses.

*Action on the Brain and Nerves.*—I must here again quote myself as an example.

I am literally fastened to my study, having to edit two journals and attend to a very large corre-

spondence, I suffer from neither fatigue of mind nor headache.

At the same time I have firm flesh, and my cerebral substance is consistent. I owe the above to the daily use of the Chanteaud Seidlitz.

Moreover, my brain is constantly receiving a vivified blood; I do not, therefore, fear anæmia, which renders head-work difficult and fatiguing to many persons. Such individuals are subject to headaches because they are habitually constipated.

The daily use of the Chanteaud Seidlitz disperses those symptoms, which, without being the disease, are often its forerunners.

Hypochondriasis is one of those most unhappy conditions, because it affects both physically and morally. The use of the Chanteaud Seidlitz, by regulating the cerebral and abdominal functions, will dispel it in a short time.

*Diseases which can be prevented by the habitual use of the Chanteaud Seidlitz.*—Truly no one should be his own physician, unless he has a profound medical knowledge—and even in that case the physician is a bad judge, notwithstanding the proverb, "Physician, heal thyself"—"*Medicus se curat ipsum*"—but in the prevention of diseases the case is different.

To prevent a malady, or rather its dangers, knowledge is necessary.

In entering into details we shall examine diseases solely from the point of view of the possibility of their prevention; for, when once they are developed, it is most prudent to call in a physician.

The causes of disease are within or without us.

We do not speak of those accidents which cannot be foreseen because they are fortuitous.

Internal maladies mostly proceed from functional disturbance of the organism; but we shall rarely fail to prevent them, if we pay ever so little attention to our health, as they are preceded by certain easily recognised signs.

*Obstructions.*—When the bowels are constipated, we feel abdominal tightness, and heaviness of head; we are incapable of working; and sometimes there is cephalalgia. The appetite is bad, and the tongue is clammy, retaining on its edges the impress of the teeth.

To remedy the above condition, the body should be refreshed by taking one teaspoonful of Chanteaud Seidlitz in a glass of fresh water.

Many persons habituate themselves to take so-called "health" pills. Unless there are special indications, of which the physician can alone judge, the best of them are worth nothing, because they weaken the system and do not refresh it, and thus afterwards increase constipation, so that it is necessary to augment the dose, at the risk of provoking some intestinal irritation.

In constipation, which proceeds most frequently from dryness of the body, it is evident that water



and Chanteaud Seidlitz will remove that condition.

It is rarely necessary to increase the dose of the salt; by drinking a little fresh water afterwards, the effect will certainly be obtained.

Here we may naturally mention Hypochondriasis.

*Hypochondriasis cured.*—Hufeland, in his *Art of Prolonging Life*, quotes the case of a celebrated Danish surgeon, Theden, who enjoyed a long career, and owed it to the habit which he had contracted towards his fortieth year, of drinking seven or eight pints of cold water daily. From the age of thirty he had been tormented by violent attacks of hypochondriasis, degenerating sometimes into profound melancholy, with palpitations of the heart and laborious digestion; but all those symptoms disappeared as soon as he submitted himself to the water regimen.

All persons are not able to take cold water, especially in the morning, because it produces weight at the stomach, and frequently intestinal rheumatism.

In the East, where cold water is an enjoyment, a species of debauchery, nothing is more frequent than that kind of chilling which causes colic.

That is why it is better to take water which has stood in the apartment, and to mix with it a teaspoonful of Chanteaud Seidlitz, in order to correct its crudity.

In effect, water is rarely perfectly drinkable. It is generally insipid, because there is a deficiency of saline principles. The Chanteaud Seidlitz renders it unctuous and soft to the digestive canal.

It does not remain in the body sufficiently long to produce its effect; that is to say, it is partly absorbed to refresh the blood, and partly rejected by perspiration and the urine, thus clearing the circulatory stream by a kind of drainage.

As for a serous stool, it is the result of intestinal perspiration, which, by turns, carries off internal heat, and so prevents fever and inflammations.

We must here enter into some details concerning the production of animal heat.

The temperature of the body in a state of health is 98½° Fahr. (37° c.)

Rarely in our climate does the external temperature rise to that point. We do not, therefore, derive our heat from the surrounding air, but, on the contrary, we give it to it.

In tropical regions, where the thermometer rises to 104° to 106° Fahr. (40°–41° c.), the temperature of the body inclines equally to rise beyond the physiological mean; and life would not be possible if it were not for the abundant perspiration which constantly bathes the body. Hence there is equal danger from chills, which arrest evaporation and thus produce congestions, most frequently fatal.

The utility of the Chanteaud Seidlitz is thus

recognised, which carries off, by the perspiration, an enormous quantity of heat, and so prevents fever.

(To be continued.)

## THE PUBLIC SCHOOL IN ITS RELATION TO INSANITY.

(FROM AN AMERICAN POINT OF VIEW.)

By HENRY S. NOBLE, M.D., Assistant Physician to the Hartford Retreat for the Insane, Conn., U.S.

A NOTE of alarm has recently been sounded in various quarters, regarding one of our northern institutions, from which we had been led to anticipate the most salutary results, and to which, in the east, an unquestioning faith has been attached.

We have all along been regarding the public school system as the panacea for all evils, whether they be of a social, political, or moral character, and the man who ten years ago would have dared to raise the question of its complete adequacy to meet the requirements and subserve the best interests of the whole American people, would have been regarded as either wanting in sincerity, or as the foe of all human progress and civilization. The public school was a social contrivance, in which was felt so great a pride and confidence, that those sections of our country which did not provide for it were looked upon with a supercilious pity bordering strongly upon contempt.

It is scarcely necessary to say that public education at public cost is a New England idea, originating in the supposition that book-learning was in itself so elevating and purifying as not to be neglected in the formation of good citizens. If this proposition be true, then the legislation which was the fruit of the idea was eminently wise and sagacious.

The commonwealth of Massachusetts, in 1647, enacted that every township of fifty householders should have some person appointed to teach all children applying to him to read and write, and that his wages, therefore, should be supplied either by the parents and guardians of the scholars, or by a public tax. Every township of twice this number of families was required to provide a school of such grade that students might therein be fitted for the university. Such was the inception of a system which has grown to be so vast and complete, that were the theory upon which it is founded a correct one, we have a right to look in Massachusetts for its happiest and most salutary results. None of the conditions of success have been withheld; money, labour, intellect, sagacity and business talent have been expended upon the system without stint, and as reasonable citizens, we ought by this time to make inquiry regarding the harvest we are reaping.



Let us examine briefly what these results, as so far gathered, really are.

It was assumed by the founders of the system, that general education was to be the safeguard of the republic, which was quite correct. It is further assumed that the education now afforded by the public school is of just the sort to compass this desirable object, which is quite incorrect.

The benefits to be garnered were in the shape of vast improvements in the social, political, and intellectual condition of the citizens in the commonwealths where public education should be fostered. Is it at all impertinent if we ask the question, "Has such been the case?"

The query is best answered by a comparison of those communities which have been longest under the public school influence, with those which have been either wholly or for the most part without it.

For convenience sake, it is desirable to first examine the political condition which has developed under the public school regimen, not, however, because it is most important, but for the reason that it was one of the first fruits of the system. No sooner had public education become a part of municipal politics, than the cry arose on all sides for the "higher education," which meant simply that through the distribution of the funds intended for educational purposes, a political power was to be wielded, and the individuals with whom this power of patronage lay, wished to make it as mighty as possible; and they have succeeded beyond their fondest dreams or most extravagant anticipations. In New York city alone, nearly 4,000,000.00 dollars annually are spent upon public schools, and the results are mainly apparent in political corruption and social deterioration. The whole state of New York, during the year just ended, paid 10,296,977.26 dollars in support of the common schools, or a sum of two dollars for every man, woman, and child in the commonwealth. Massachusetts and most of the older Northern States, are actually, if not avowedly, struggling in the folds of a similar hydra of taxation. The local politicians of almost every city of any considerable size make it a point to display their patriotism in fostering the "higher education," and what does this, their lofty-minded and commendable zeal imply? Simply that contracts for expensive school buildings are to be let to political favourites who will "stick by their friends" on election days; more teachers to be hired and paid; special text-books to be provided, until now in almost every city school the number would confuse older heads than those which they are intended to strengthen and develop. Besides the elementary branches formerly taught, we must have a teacher of music to impart instruction to a mass of pupils, of whom not one in five will ever have the time and ability to sing a note after leaving the school. But

never mind—music is so elevating and refining, even to those who have not the slightest conception or appreciation of harmony, that we must provide for its cultivation at the public cost. Let us also furnish for these same pupils a teacher of drawing; art is so ennobling it cannot fail to produce us better citizens. No matter if, in order to earn an honest living, these pupils shall in after life be destined to carry a hod, or break stones upon the public thoroughfares, let us teach them all the science and art of perspective and freehand drawing at the cost of the taxpayer.

If these two ornamental branches of learning be desirable, how much more so is the art of correct reading and dramatic expression. We must have a peripatetic teacher of elocution, whose duty it shall be to wander through the various schools of our cities and impart from one to two thousand dollars' worth of voice culture, in weekly instalments called lessons.

O, philanthropic educators of the rising generation, what wise provisions for tender years! O, admirable large-minded statesmen, what artists, what prodigies of culture and oratory will your system of public education produce! The burdened taxpayer should in his daily orisons remember you in gratitude.

I would not be understood as endeavouring to belittle the importance or desirability of these ornamental branches of learning.

To such as have the time, taste, talent, or means to pursue them, such culture is eminently fit and proper, but their introduction into the curriculum of the public school has been most unjust to the taxpayer and disastrous to the pupil; unjust, because ten men are obliged to pay for something of no avail to their own children, in order that those of the eleventh may be provided therewith; disastrous to the pupils from the multiplicity of subjects forced upon their attention; but glorious for the local statesman on account of the increased patronage placed in his power.

The Superintendent of the Board of Education in the city of New York, in his report for 1879, says: "In our day, and in the condition of American life, we need all the power of an educated intelligence in order to lift the masses, as well as to maintain an equilibrium in the forces of society. The distribution of knowledge is as necessary as the distribution of light. We need the distributive power of systems of education, which will reach the lowest abodes and penetrate to the furthestmost hamlets of the land. The best education of the people will thus become the best government of the people."

Here we have in a terse and compact statement, the theory upon which the system of public education rests. The "distributive power" of the system reaches the lowest abodes, and under those circum-

stances is the "best government of the people" to be produced. I am not aware that such has been the effect in New York. If I am wrong in saying that the distributive power of the public school system of education has not raised the quality of men's moral natures in New York city or anywhere else, I beg to be corrected. If the education provided by the public school is what is claimed by its friends, and expected by those who pay for it, the fruits ought by this time to be manifested "in our moral advancement as a people; in a higher tone in our society; in the greater purity in our politics and incorruptibility of our legislators; in the increased probity of the executive officers of our state and municipal governments; in the sobriety of our matrons; in the steady decrease of vice and crime, of idleness and vagrancy." I will not irritate the friends of the higher education by inquiring if they find such results following a half century of experience with the public school.

As a matter of fact and public record, crime and vice, political jobbery and corruption, dishonesty in business, pauperism, vagrancy and social immorality have steadily increased in those sections of country which have been longest under the humanising influence of the so-called higher education.

Although comparisons may seem odious, let us turn to the census reports of certain sections of the United States, and see if the statistics will throw any discredit upon the claim put forward, that the public school has ignominiously failed to accomplish its political and social mission. Take the six New England states, and place them in comparison with Delaware, Virginia, Maryland, North Carolina, and South Carolina; eliminate carefully the effect of foreign immigration and the disturbing influence of the civil war, which shook the foundations of society, and examine the social condition of the two sections. They are all of the "old thirteen," with the exception of Maine, and founded about the same time by settlers of the same nationality, and for the most part of the same religious faith. In order to eliminate the effect of the foreign element, we will compare only the native white population of the two sections; and that we may avoid the disastrous moral and political influences of the civil war, take the statistics of 1860 for the comparison. The census of that year shows the native white population of New England to have been 2,665,945, and such had been the distributive power of the public school, in the matter of education, that of this number there were but 8,548 adults who could not read and write; or to put it in simpler terms, only 1 in 312. On the other hand, in the six Southern States mentioned, with a native white population of 3,181,969, the proportion of persons who could neither read nor write was as 1 to 12. We should therefore expect that vice, crime, pauperism, and all the essential features of

bad citizenship, in the Southern States, would bear a proportion to the same evils in New England of 312 to 12. If, therefore, the public school has wrought its mission successfully in producing moral, upright, thrifty, law-abiding citizens, the criminal classes of New England should be only in a proportion of 12 against 312 in those states which have not fostered the plan of general education. But unfortunately the boot is upon the other foot. New England society produced one native white criminal to every 1,084 inhabitants, and the six Southern States named, one native white criminal to every 6,670; a balance on the wrong side of the ledger of more than six to one. Foremost in the criminal record stands the commonwealths of Massachusetts and Connecticut, which have been most ardent in support of the public school, and longest under its formative power.

Pauperism and tramping have been prevalent in New England, as compared with the Southern States, in the proportion of more than four to one.

These figures do not prove what at first they would seem to, viz. that educational advantages are the natural antecedents of crime and profligacy; not at all. They do not prove that a wholesome disciplinary culture is not the proper means of producing a cheerful, thrifty, and law-abiding race; but they do prove that the public school is not the engine of morality and reform which its friends have sincerely supposed it to be. If such be the condition of the adult population, let us interrogate the pupils of the schools themselves, and see to what fitness their preliminary training has brought them for the great battle of life.

The *Chicago Times* thus briefly and correctly summarises the report of Mr. Walton, agent of the Massachusetts State Board of Education, on the public schools of Norfolk County, Mass.:—

"The examinations were, in the first place, of the simplest and most practical character. There was no nonsense about them. They had but one object—to see if, in the common schools, the children were taught to read, write, and cipher. The showing made by some of the towns was excellent, and of them we shall speak hereafter. In the case of others, and of many others, it is evident from what Mr. Walton says, and still more evident from what he intimates, that the scholars of fourteen years of age did not know how to read, to write, or to cipher. They could, it is true, repeat the pieces in their school readers, and parse and spell in classes, and rattle off rules in grammar and arithmetic, not one word of which they understood; but if they were called upon to write the shortest of letters or the simplest of compositions, or go through the simplest of arithmetical combinations, their failure was complete. They had, in fact, been taught what to them were conundrums without end; but the idea that the

teaching was to be of any practical use in the lives of these children when they grew to be American men and women, formed no part of the system, and evidently had never entered into the heads of the instructors. Then, when the letters and compositions were brought in, the ingenuity in bad spelling seems simply incredible. Unless the different misspellings of the word "scholar," for instance, were given, as in this volume they are, who would believe that they would be some 230 in number! Then, again, sixty-five different spellings are enumerated for the word "depot"; 108 for the common word "whose," and fifty-eight for "which." Out of 1,122 pupils who used the adverb "too" in the narratives, 859, or nearly seventy-seven per cent. of the whole, spelled the word incorrectly. Then, on pages 218, 219, and 246-248 of the report, we are given a *fac simile* lithograph of these letters and compositions, showing their average excellence in certain of the towns, and anything worse it would be hard to conceive. Language fails to do justice to them; they only can do it themselves."

If we desire further testimony bearing upon the same point, we have only to read the paper of Charles Francis Adams, jun., on "The New Departure in the Common Schools of Quincy, Mass.," where he says of an examination, "the result was deplorable; the schools went to pieces. . . . In other words, it appeared, as a result of eight years of school teaching, that the children, as a whole, could neither write with facility, nor read fluently." All this in a State which by general consent stands highest in the excellence of its public school system. During the fiscal year just ended, the city of Boston, with her 50,548 pupils, paid 1,515,366.00 dollars in support of public education, or a sum of 4.65 dollars for every man, woman, and child dwelling within the corporate limits; nor is the end yet reached. At the present writing, a Bill is under discussion in the Massachusetts House of Representatives, to legalize the teaching of military drill, gymnastics, and calisthenics, in the public schools of the State. When we reflect upon the fact that this stride toward the "higher education" is for the benefit of those very schools which furnished us with 230 mis-spellings of the word "scholar," and sixty-five for "depot," we can hardly forbear smiling at the legislative sagacity displayed in the Bay State capital.

The Superintendent of Public Instruction for the State of New York says, in his eighth annual report, "that many teachers who have been over a very extended ground of higher mathematics, failed utterly in the simplest principles of mental and practical arithmetic. More have spent busy terms in the study of the classics, but have no knowledge of the first principles of their own language, while to find one who knows anything of the geography of his

own, much less of foreign lands, is rare good fortune indeed. And yet these are not novices, but representative teachers, as the average term of their experience shows."

These, then, are the acknowledged results of a twenty years' experience of the public school system, viewed from a political and social standpoint, and for which we were, in 1870, paying annually more than 64,000,000 dollars.—*Detroit Lancet*.

(To be continued.)

### COMPULSORY VACCINATION.

We plead guilty to having a deep sympathy with anti-vaccinators, whose motives appear to be certainly devoid altogether of selfishness and prompted by an earnest desire to benefit their fellow-creatures. Whether right or wrong in their zeal, these people deserve to be fairly heard, and, judging by what we hear about them, are worthy the steel of their opponents. It is all very well for members of the medical profession to abuse anti-vaccinators as mischievous people, but they should remember that it is not the difference of opinion that calls forth their bitter animosity, but the fact that they are compelled by law to have their children vaccinated when they themselves are unbelievers in its efficacy. It is the *compulsory* vaccination they object to; and it is a grave question whether, in a free country like our own, it is politic to continue to enforce such a law as the Vaccination Act. That the discovery of vaccination by Dr. Jenner was a great boon to society we are not at present prepared to doubt, in the face of so much statistical and other evidence in its favour, but, because we believe in its protective powers is no reason whatever that all other people should do likewise. True, that members of the medical profession are better judges than outsiders of such matters, and that all the objections against vaccination are probably worthless, yet the fact remains that there *are* objectors, and very conscientious ones too, and the question must sooner or later be settled whether they are to be compelled against their wills to submit to what they consider to be a useless operation, and a ready means of conveying the gravest of all diseases from one to the other. There are very eminent people who, while firmly believing in the efficacy of vaccination, are yet very averse to making it compulsory. The Right Hon. George Canning said, "Although I consider the discovery of vaccination to be of the very greatest importance, yet I cannot imagine any circumstances whatever that would induce me to follow up the most favourable report of its infallibility with any measure for its compulsory infliction." The Right Hon. William E. Gladstone remarked, "I regard compulsory and penal provisions, such as those of

the Vaccination Act, with mistrust and misgiving, and were I engaged upon an inquiry, I should require very clear proof of their necessity before giving them my approval." There is one very startling fact in connection with compulsory vaccination which ought to be explained without loss of time by the profession; it is that there has been a remarkable increase of infantile syphilis of late years, and that no more ready means of transmitting this disease from the one to the other exists than vaccination. Dr. Carpenter has attempted to deal with this very important question by pointing out that we do not refuse to drink water because it may possibly contain lead, and that therefore we should not refuse to be vaccinated because the lymph may possibly contain the syphilitic virus, forgetting altogether that it is an easy matter to detect lead in water, but that to discover the presence of syphilitic poison in vaccine lymph is a matter of the greatest difficulty—in fact, at present, quite impossible, and also that it would take a great quantity of water poisoned with lead to produce poisonous symptoms, but that the most minute atom of syphilitic virus may lead to the most disastrous results and defy all medical treatment. We must also remember that lead-poisoning is not communicable by the sufferer to others, but that syphilis is, and that an enormous number may become infected by the infection of one individual. With the actual advantages to be derived from vaccination we have nothing to do in this essay. The question before us is, are the people of this country to be compelled to submit to repeated fine and imprisonment when they are persuaded, as Mr. Bright says, that whilst vaccination cannot save their children from small-pox, it places their health and lives in deadly peril? Is it not advisable to abolish compulsory vaccination and to leave it to the discretion of the people whether or not their families shall be vaccinated? We are strongly of opinion that if there is not sufficient reason for the abolition of the Vaccination Act, there is ample to call for a strict investigation of the subject. There are those who, while agreeing in the main with the advocates of compulsory vaccination, are yet of the opinion that a great deal of the improvement in the condition of the people during the last few years is due to the improved sanitary arrangements of our great centres of population, and not to vaccination at all. This is an important point and should not be lost sight of, for there is little doubt that the health and condition of the people have undergone a marvellous improvement of late years owing to the recent sanitary works, and it is quite possible that this improvement in the sanitation of large cities has had a good deal to do with the decrease in the number of deaths from small-pox. We say quite possible because we are not yet prepared to accept this view of the matter in the face of the very copious and sug-

gestive statistics issued by the authorities in relation to small-pox and vaccination. Statistics, we are aware, are not always to be relied upon, but when we find them abounding in facts all pointing one way, we are compelled to be guided by them to a large extent in forming our conclusions. In spite of statistics, however, there remain, as we have shown, two very important reasons why the vaccination question should be officially re-considered. One is the fact that inoculation of cow-pox offers a ready means for transmitting that fearful disease, syphilis, and the other is that it is not absolutely certain that the decrease in the number of deaths from small-pox is not due to the improved sanitary state of the large centres of population instead of to vaccination. These are points which must be settled after the most careful consideration, and the sooner the problem is solved the better it will be for all parties concerned; for the present attitude of the opposing factions is not very creditable. Both parties have much to say in support of their views, and both are equally averse to listening to any reasonable suggestion from the other side; and until there is shown a little more generous feeling towards each other and a little less party spite, we need expect no very satisfactory settlement of the question. We are glad to find that Dr. Drysdale, on November 28th last, delivered a lecture on "Animal Vaccination" at one of the monthly conferences of the London Society for the Abolition of Compulsory Vaccination, in which he endeavoured to vindicate his faith in the presence of his enemies. Such courage as this is to be highly commended, and we hope to see before long members of the opposing factions meeting together for the calm consideration of the question, which all admit to be one of the most vital ones of the age.

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### THE VIVISECTION QUESTION.

THREE articles on "Vivisection; its Pains and its Uses," have recently appeared in the *Nineteenth Century*, one from Sir James Paget, another from Dr. Wilks, and a third from Professor Owen. The most important one is that of Sir James Paget, one of the ablest and most eminent surgeons of the day, whose language is most moderate and impartial. He commences with the proposition that it is "fair to demand that those who inflict pain or other distress on animals for the purpose of acquiring knowledge, should be judged by the same rules as those who, for any other purpose, do the same." He then points out the various ways in which the most educated and humane classes of men and women directly and indirectly inflict pain on animals by way of pleasure, and compares the pain so caused with

that inflicted by physiologists and pathologists, expressing his conviction, from observation, that with few exceptions "there are no physiological experiments which are not matched, or far surpassed, in painfulness by common practices permitted or encouraged by the most sensible and humane persons of the time," without the use of anæsthetics. He compares the pain suffered by animals after experiments when it is necessary to keep them alive, to that suffered by animals that survive injuries inflicted during sport, or in the numerous other attempts to kill them, "but with this advantage to the vivisected animal, that it is an object of care, provided with food and rest, and safe from the attacks of others of its own or other kinds." This is to the point, and unassailable; but Dr. Wilks takes a different standpoint, and maintains that "the real question turns, not on the cruelty, but on the utility of 'vivisection.'" This appears to be the sore point with anti-vivisectionists, who mostly allow that the amount of pain inflicted is comparatively small, but maintain that there is no necessity for inflicting such pain, and on that account it is not justifiable. Sir James Paget gains a good point in his reference to the nature of the legal restraint, remarking that, "I may pay a rat-catcher to destroy all the rats in my house with any poison that he pleases; but I may not myself, unless with a license from the Home Secretary, poison them with snake poison." The gross absurdity of this is too apparent, and yet there are those who cannot, or will not, see it. Dr. Wilks points out that "vivisection" is the only road to physiological and pathological knowledge, without which physicians would be at a loss to account for many of the phenomena which are constantly manifesting themselves in the human body, and that experiments on animals have been of incalculable service to medical science and practice in the past, and declares that "every fact in nature, being of necessity the exemplification of a general law, has its meaning; and thus the most important consequences have resulted from an observation of the most trivial phenomena." He speaks of knowledge as the "pearl of great price," and says that "all knowledge is self-created; it comes step by step, through experiment and verification." He continues, "in animal life, the same method must be adopted to unlock the secrets of nature," as it is found necessary to adopt in other branches of natural science; "the question of the animal being sensitive cannot alter the mode of investigation." Professor Owen contents himself with replying to the onslaught made upon his address at Folkestone.

There can be no doubt that these articles will go a long way to remove the erroneous impressions that had gained possession of the minds of numbers who were not sufficiently acquainted with the nature of the question at issue, and to convince those anti-

vivisectionists who are not prejudiced that there is on more infliction of pain, during experiments on animals for scientific purposes, than there is during the chase, but, on the contrary, far less. It is right and proper that some restraint should be put upon experimenters, lest at any time some zealous but not over-thoughtful juvenile member of the profession should outstep the bounds of moderation and inflict unnecessary suffering; but the greatest care should be taken not to hamper those eminent scientists who are most unselfishly devoting their lifetime to such studies, in order to confer the greatest possible blessings upon future generations.

We are decidedly of opinion that the existing Vivisection Act is not all that can be desired, and we sincerely hope, in the interests of humanity, that it will very soon undergo considerable modification. No doubt anti-vivisectionists will do all in their power to prevent any modification of the Act, unless it is for the purpose of making it still more offensive and trying to men of science, but the sensible and reasonable public and responsible persons will, we feel sure, give no ear to such false doctrines as those held by the Anti-Vivisection Society. Argument is useless with such people, for we look upon them as monomaniacs, who are the unfortunate subjects of a fixed idea, and who by reasoning are only the more firmly convinced of the truth of their all-absorbing belief. It is as well to let such fanatics alone, and to allow the public to judge for themselves; and after carefully reading such able articles as those just quoted, we cannot doubt the result. There can be no doubt that the late Government, in framing the mischievous Vivisection Act, yielded to unreasoning clamour, and it is therefore incumbent upon the body of scientists not to again allow similar means to give rise to measures more restrictive of legitimate indispensable scientific research. This can only be guarded against by such measures being taken as will place before the public in the plainest manner the real facts of the case, and the means to this end lies not in public discussion with unscientific and misinformed fanatics, but in delivering essays after the manner of Sir James Paget, Dr. Wilks, and Professor Owen. It is to be regretted that just at this time men of science labouring for the good of humanity, should be taken from their work to combat notions almost identical with those that brought about the persecution of scientific discoveries in the Dark Ages; but the fact cannot be ignored, however much it is deplored. Our cry should be "more light," and not "less science"; and we should hail with the liveliest satisfaction the formation of an association of scientific men to counteract the anti-vivisection agitation. Our contemporary, the *Journal of Science*, makes a good suggestion, which we hope will be acted upon. It is that a Biological Defence

League should be immediately organised, principally for the defence of persecuted scientists, and for instructing the public and the lay press on the real merits of the question, by the circulation of tracts, &c. On the title page of this journal we notice the words *post tenebras lux*. Let that be also the motto of the new league; and in wishing them God-speed, we and all true lovers of science wait with patience and confidence for the light which will dispel the present darkness.

**VEGETARIANISM.**—Professor Mackendrick presided lately at the third annual vegetarian banquet of the Scottish Food Reform Association, which took place in the Christian Institute, Glasgow. The Doctor declared he was not in practice a vegetarian, but that he was satisfied that many ate more animal food than was good for them. But vegetarians wasted power in their controversies on this subject. For example, the moral aspect of the question has been severely strained. He could not agree with those who argued that avoidance of animal food would work a revolution in the character of men—that the fierce and warlike would become gentle and docile. Neither did he attach much importance to the anatomical conditions which had been in argument on both sides. The digestive apparatus of a man and of a monkey were very much alike, but their diets might be very different, and it might be added, however, that in all probability the earlier races of human beings lived on fruits and herbs. If our progenitors lived an arboreal life, they probably consumed the same kind of food, fruits, and roots as the gorilla or chimpanzee of the present day. From the purely scientific standpoint, he thought it had been clearly proved that men might live in a state of vigour and do good physical and mental work on a diet derived entirely from the vegetable kingdom. The question was one of digestibility and power of assimilation. And here the art of cooking came in. If by various appliances vegetables could be so cooked as to be assimilated, then there was no scientific reason why a vegetable diet should not be as nutritious as one composed of animal substances.

**STIMULANTS IN WORKHOUSES.**—Moderation in the use of stimulants is a very good thing undoubtedly, and we have the greatest sympathy with all temperance movements that are conducted on a fair footing. Total abstinence is quite another thing, and we look upon this craze as most damaging to the cause of temperance. No doubt it is very desirable to limit the use of alcohol in workhouses, but the policy of depriving the aged poor of their usual stimulant, as the frosty weather is making its appear-

ance, is one of parsimonious cruelty. There are numbers of physicians who are so ignorant of or forgetful of the commonest rules of physiology as to declare that alcohol is not food, when it has been conclusively shown, over and over again, that it promotes the evolution of heat, and in some stages the process of assimilation. It is downright dangerous to enforce abstinence where the individual has been accustomed to taking alcoholic liquors for many years. Of course, we do not mean to put forth the idea that people are not much better without alcohol than with it, for we know full well that such stimulants can as a rule well be dispensed with and that the abstainers do actually enjoy better health and live longer than those who indulge in the regular and free use of alcohol. At the same time we do not forget that this is a free country, and that we are professedly governed by principles of equity, and we maintain that to take advantage of the fading years of the poor, when dependent on charity, to enforce abstinence, is neither manly nor right. Let teetotalism be preached far and wide and its influence be brought to bear as much as possible on able-bodied and independent people, but in all fairness, and as we love liberty ourselves so dearly, let us leave the aged and infirm alone, who can hope for nothing more in this world than an easy death, and allow them, when unfortunate enough to become dependent on the public bounty, to still continue for the short space of their unhappy existence their accustomed drop of stimulant.

**TIGHT-LACING.**—Deaths from "tight-lacing" have been of frequent occurrence, the *Lancet* remarks, for many years past, and a few more or less can make no difference to the fashionable world. Dr. Danford Thomas, the coroner for Central Middlesex, says he is personally cognisant of four or five such painful sacrifices to an ideal conception of the human figure, which is totally at variance with fact, and opposed to the laws of Nature. In the most recent case of this class recorded, an aged woman who died from syncope was found to have so compressed her body by "tight-lacing," that the stomach was, as it were, divided into two portions, one being thrust upwards so as to hamper the movements of the heart, whilst the other was forced downwards. It may be alleged that the death of a woman at seventy years of age cannot be held to be evidence against the urgent evils of the practice. We lay the greater stress on the case because it is clearly not available as evidence of urgency. It is rather significant, as a proof of the injury which the human body will long endure, without the extinction of life. It cannot be pretended that a stomach ought to be compressed as this poor woman's had been. She lived on, in spite of the maltreatment to which her figure was subjected in the interests of fashion. It cannot, therefore, be

argued that, inasmuch as the deaths from "tight-lacing" are not as numerous as they might be, no serious harm is done. It is evident that extreme violence may be used, and grave mischief may be done by "tight-lacing," even when the victims of this stupid and baneful practice are not killed outright. Many of the maladies to which women are subjected are the direct consequences of their habits, and the vagaries of dress and the artifices of the toilet are among the most pernicious. Although it is vain to argue with women, the facts must be stated, however little may be their influence on the female mind by vanity distraught.

**SANITATION OF WESTMINSTER DEANERY.**—It is now beyond doubt that the late Dean Stanley's life was sacrificed to bad drainage at the Deanery, and remarkable though it may appear, it is yet a fact that the drainage about Westminster Abbey has been for a long time in a shocking state, so much so that the study in which the late Dean did his work was insufferably offensive. It is a well-known fact that Dean Stanley's sense of smell was not very acute, and this accounts for the fact that he never made any bother about the offensive smell in his study. Others, however, pointed it out frequently, and recommended a search to be made. Matters were allowed, however, to remain as they were until too late, for the Dean succumbed to the poisonous emanations from beneath and around his study. Now it appears all is alacrity to remedy the evil, and so we may reasonably expect that the new Dean will not be poisoned by sewer gas. One cannot help asking why the Abbey, its close, and tenements of antiquity, were allowed to get into this fearful condition of drainage, and where was the surveyor, or other official, whose duty it is to look after these matters?

**DEATH FROM CHLORAL.**—Another death from chloral was recorded in the coroner's court last week, the victim having been a young man, recently a student in a Welsh College, and who had been only a short time resident in London, in quest of a situation. The evidence went to show that deceased had been more or less habituated to the chloral habit as a means at first of subduing neuralgic pains. It must be assumed, however, that the fatal influence of the drug grew irresistibly strong, and that this adds another to the long list of deaths from the indiscriminate use of the drug.

**A FARMER FINED FOR ADULTERATION.**—A farmer residing near Whitchurch, Manchester, has been fined £20 and costs, or two months' imprisonment, for selling milk impoverished by the addition of 80 per cent. of water. The milk had been supplied to the Royal Infirmary, Manchester.

## CORRESPONDENCE.

To the Editor of THE FAMILY DOCTOR.

SIR,—Will you allow me to draw the attention of your readers to what goes on at some of the little so-called dispensaries that are springing up all over the metropolis? I was foolish enough to be persuaded to apply for advice at one of them lately, thinking I might get on better there than under my own doctor, who appeared to be puzzled about my case. I was told that the medical officer to this "dispensary" was a good hand at the disease I was suffering from. The charge was only one shilling each time. I went, and the place was crowded with the faithful sick. For six weeks I went every day, as the doctor said my case required regular daily treatment, for fear of a change of symptoms suddenly turning up. I received each time I went a fresh bottle of medicine from the assistant, and paid my shilling. At last I insisted on being told whether or not the doctor could cure me, as I got no better, and he informed me that I was incurable, but that he made a particular study of my disease, and could give me more temporary relief than any other doctor in London. I was fool enough to continue visiting him for another six weeks, and generally saw only the assistant, as they seemed run off their legs with work. At last I gave it up, and applied to another medical man, who, after examining me, insisted upon my conforming to certain rules of diet he laid down for me. I followed his advice, and after taking four bottles of medicine, made up at a chemist's from a prescription he gave me, I was perfectly well. I met the assistant of the "dispensary" doctor shortly after at an hotel, and in course of conversation he informed me that the system at the "dispensary," which had no committee, but was, "between him and me," his governor's private surgery, consisted of "ready money, small fees, and plenty of them." He said they did not bother much about what was the matter with the people, as long as they could be persuaded to come regularly and pay up. His governor, he said, was a "knowing card," and gave him a splendid salary to sharpen him up to the mark. This, he said, must be in confidence. Two thousand a year was the amount this gentleman was reputed to make at his rascally game. I have inquired since about the truth of this from medical men and others, and can assure you it is no exaggeration. Fellow-citizens, beware of cheap "dispensaries without committees."

UNFORTUNATELY A SUFFERER.

*Enquirer.*—The best book on the subject is Dr. Hardwicke's *Medical Education and Practice in all parts of the World*, price 10s., published by Churchill, New Burlington Street, W.

*Lady M.*—We are much obliged for your suggestion, which we shall carefully think over. Kindly send a specimen.

*Health.*—Do nothing without the advice of your lawyer.

*M.A.*—You must either have your child vaccinated, or suffer repeated fine and eventual imprisonment. It is foolish to "kick against the pricks."

*Sarah Ann.*—The point is a good one, and will be considered.

*D.H.*—Please apply to the publishers.

*Dr. Albutt and Herr Emil Behnke* are thanked for their communications.

The Medical gentleman who wrote to the editor lately and offered an article for publication, will oblige by writing again, as his letter was by accident mislaid.

All letters and other communications for the Editor should be addressed to him at the Publishing Office, and, if for publication, should be written legibly, and on one side of the sheet only. Communications relating to subscriptions and advertisements should be addressed to the Publishers.

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## THE FAMILY DOCTOR.

## INFLUENCE OF THE CHANTEAUD SEIDLITZ ON LONGEVITY.

By DR. BURGGRAEVE, late Professor of Medicine in the University, and Principal Surgeon of the Civil Hospital of Ghent. Translated from the French by DR. H. A. ALLSUTT, Physician to Leeds Dispensary for Skin Diseases.

(Continued from page 5.)

**Bilious Condition.**—The quantity of bile we make in the twenty-four hours is truly prodigious. It is estimated at 900 grams,\* that is to say, 27,000 grams in a month, or 324,000 grams in a year! It is not astonishing that so many persons find it difficult to live, and we must with truth say to them: "Refresh yourselves!" Unless of an inveterate bad humour, which must have its course, nothing can be done for those morally diseased persons, who would die of suppressed passion if they had not their paroxysms.

The fact is, that I who have a hot temper have become very composed since I commenced habitually to take the Chanteaud Seidlitz. I still feel keenly, but painful impressions do not endure. I take men for what they are worth, because I do not perceive them through a bilious medium.

Julius Cæsar and Napoleon First were of an atro-bilious temperament; and as they did not refresh themselves, they finished by holding humanity in contempt. But they were punished; for the vulture of Prometheus, in the form of hepatitis, incessantly preyed upon their livers. "*Immortale jecur.*"

Indeed, when the bile is not evacuated in time, it acts upon the liver itself, because it is a very alkaline, acrid, and almost caustic liquid, as one

can perceive when it rises into the throat—the "burning" ("brulant") as it is commonly called.

That is the case in tropical countries, where the bile produces yellow fever or the black vomit (*vomito negro*).

There is nothing more terrible than that disease; it burns like an inward fire, which nothing can allay; puffs of heat mount towards the head, as from the bottom of a crater, the face is red like a boiled crab, the temples throb violently, fierce vomitings bring up bilious and afterwards sanguineous matters; the intestines feel as though twisted, and the body is covered with blackish spots, due to the altered blood; in brief, it is a general decomposition, preceding death.

Now that the Chanteaud Seidlitz is widely used in Brazil and most of South America, the *black vomit* is less frequent, because it prevents the bile from collecting in the liver and intestinal canal; and when it declares itself as a bilious diarrhoea, it can be rationally and easily treated by the Chanteaud Seidlitz, and some hyosciamine granules; whilst bleeding kills almost all the patients.

There is, in the meantime, a sensible prophylaxis. It cannot be denied that there is more merit in preventing diseases than in curing them; independently, that the cure is always uncertain.

Without presenting so much gravity, the bilious condition produces inexpressible uneasiness, want of appetite, and dejection, which are the precursors of alarming diseases. It is necessary, therefore, to take care to be refreshed in time.

**Apoplexy.**—Everyone knows what apoplexy is (especially in the complete form).

Even as its name indicates, it strikes like the thunderbolt. The individual attacked is suddenly deprived of sensation and motion; his limbs fall back inert and insensible to all external excitations; the respiration is stertorous and sonorous, and the countenance is frowning. But this condition has been preceded by symptoms which, resisted in time, would have prevented the catastrophe.

Notwithstanding his sanguine nature, the apoplectic does not tolerate bleeding, because his vessels, mechanically distended, have lost their elasticity. Thus it results that the more he is bled, the greater becomes the engorgement, unless he is deprived of all his blood, as was done by Doctor Sangrado, so humorously depicted by Le Sage, in his *Gil Blas*. On the contrary, we must give tone to the apoplectics by administering strychnine, which is their stimulant *par excellence*, restricting them to a cooling diet, but small in quantity, and especially compelling the daily use of the Chanteaud Seidlitz. Where is the apoplectic who, at this price, would not desire to avert the "sword of Damocles" suspended over his head?

\* The gram is about 15½ grains troy.—H. A. A.



*Rheumatism, gout, gravel.*—All these complaints are related, and are due to an atony of the skin and kidneys in a cold and damp atmosphere. Thus, we observe that in the Département du Nord, Roubaix and Tourcoing are almost inundated with these affections. The reason is, the land lies low, is damp, and its waters are stagnant. It would be necessary to commence by draining the soil.

The women particularly, in that part, are afflicted with nodose or tophaceous rheumatisms. These cannot be ascribed to the prevalence of intemperance among them, for they drink coffee chiefly.

They are the products of the renal and cutaneous secretions, principally *uric* and *sudorous* acids, retained in the blood, which occasion chalk stones or urate of soda, in the hands and feet, in the sheaths of the tendons and in the muscles. Those parts thus lose their flexibility, the limbs emaciate and become deformed, and the sufferer experiences intolerable pains, either continuous or in paroxysms.

Here is the treatment indicated: hot alkaline baths (carbonate of soda), douches of the same, and packing, but especially the daily use of the Chanteaud Seidlitz, which, by its mild alkalinity, corrects the acidity of the blood and humours, even as the granules of benzoate of lithia (a dozen per day) neutralize the uric and sudorous acids.

This is a rational and physiological treatment, whilst all the pretended specifics are dangerous and non-physiological.

What benefit is obtained by wishing to prevent the gout from "coming out"? Will it exist *less* interiorly?

The gouty are never more ill than when they have not their gout; and never in better health than when they have had it. But it is a painful affection which, if allowed to travel, causes infirmity; it must not, therefore, be prevented from "coming out," but shown to the door, softly and civilly, as can be done by the Chanteaud Seidlitz and benzoate of lithia.

With the above treatment may be combined arseniate of strychnine and digitaline (three or four granules of each a day), when the gout is atonic, that is to say, when it does not "come out" at its epochs, and the patient experiences gouty pains in the regions of the stomach and heart.

But this is rather the province of the physician. If we speak of it here, it is that the gouty may consult their doctor in time.

The treatment we have indicated can be carried out at home, as the gouty can only be removed with difficulty. A visit, however, to the mineral alkaline waters will be beneficial between the attacks, as they have for their object the dissipation of the internal engorgements, principally of the liver and spleen.

But everyone cannot, as they say, "go to Corinth."

It is to those who have to remain at home that our treatment will be chiefly useful.

*Grave fevers: typhus, typhoid fever.*—*Eruptive fevers: measles, small-pox, scarlatina.*—All these fevers depend upon one and the same cause, the heating of the body, in consequence of the accumulation in the blood of nitrogenous or ammoniacal principles.

We shall mention here a most conclusive proof. The celebrated physiologist, Cl. Bernard, by destroying the nerves of the kidneys, caused certain animals to perish in a condition of putrid decomposition, that is to say, by interfering with the functional activity of those organs.

Similar results had already been obtained by the predecessor of Cl. Bernard, Magendie, who covered some horses with an impervious coating, and thus prevented the insensible perspiration.

The above demonstrates the importance of keeping the body free. But in our variable climate nothing can be more variable than the renal and cutaneous secretions; it is necessary, therefore, to supplement them by the intestinal perspiration, by means of the Chanteaud Seidlitz.

This salt, as we have said, has equally the effect of provoking the expulsion of fermentative materials and irrespirable gases, which, without that, would collect in the intestine, and would thus excite fevers of a malignant character, notably the typhoid fever.

Dr. Baudens, in his work, "*La Guerre de Crimée*," has drawn a frightful picture. Some days after the opening of the campaign, 48,000 fever stricken patients encumbered the hospitals! That would not have happened if the soldiers had been supplied with the Chanteaud Seidlitz. They drank, on the contrary, brandy in large quantities, under the pretext of fortifying themselves.\* The reasons of those terrible epidemics were that the soldiers were supplied with victuals of bad quality, badly cooked, and irregularly distributed, and but little attention was paid to their health.

We know how contagious, or rather, infectious, typhoid fever and dysentery are; because they propagate themselves, especially through the alvine dejections, those matters having fermented in the body.

Recent researches by M. Pasteur have led to the discovery in these evacuations of a crowd of minute germs (*bacteria*),† to which that able experimenter attributes the disease; because, actually, when introduced into the blood, they produce analagous maladies. In the same manner the bacteria of variola (small-pox) produce variola.

\* It is now recognised that alcohol acts on the vasomotors, paralyzing them, and so predisposing to attacks of fever.—H. A. A.

† For an interesting account of these curious organisms, see "*A History of Bacteria*," by Dr. Phipson, in the *Journal of Medicine and Dosimetric Therapeutics*, 1890-81.—H. A. A.

These germs developing themselves under the influence of fermentation, everything which can hinder this latter will equally prevent their development, or at least will cause their abortion. With the Chanteaud Seidlitz such a result can be obtained.

In typhus there is something special, that is to say, there is a decomposition of the blood by the carbonate of ammonia which has accumulated in it, in consequence of the non-destruction of the urea and its non-conversion into uric acid. The urine in typhus is always scanty and ammoniacal, and gives off a strong mousey odour. We can understand that the Chanteaud Seidlitz, which has the particular effect of refreshing the blood, will also prevent its decomposition.

We have pointed out that the Chanteaud Seidlitz promotes the oxygenation of the blood. But we now know that venous blood is hotter by at least 1° c. (2° Fahr.) than arterial blood; that is, it will give rise more quickly to fever, since this consists in an abnormal elevation of the animal temperature.

When, in consequence of running or other violent exercise, we have become very hot, and the body is covered with sweat, the pulsations of the pulse being 120 a minute, we cannot tell that we have fever, since a few moments of repose are sufficient to restore the heat and the pulse to their physiological condition; and we need not apprehend the advent of the least danger, if we take care not to cool ourselves too suddenly by drinking cold water or by exposure to a current of air. The reason is that all is carried off in the arterial torrent, and that this is constantly cooled in the lungs, contrary to the old theory of Lavoisier, who thought that the venous blood recovered in the lungs the heat which it had lost in traversing the organs.

The venous blood takes to the heart the heat which it has drawn up from the periphery and in the organs, in consequence of certain chemical operations which take place in them.

Thus the transition of arterial blood into venous blood is performed with a great disengagement of heat; this is likewise in consequence of the conversion of the principles of decomposition, such as the carbonate of ammonia, into urea. When these combustions are suspended and are not counter-balanced by the great excretories of the body, the kidneys and the skin, typhoid maladies are the consequence, as we have previously shown. But everything which can supplement these excretories has for effect the prevention of these heatings, and, consequently, the fevers.

Such is the action especially of the Chanteaud Seidlitz Salt in re-establishing the intestinal perspiration.

That which we shall now mention will, I believe, be sufficient to show how great is the part which

the Chanteaud Seidlitz plays in the prophylaxis of acute diseases, which are almost impossible when a regular use is made of this Salt.

I have, by habitual use, proved its utility in my own person. Notwithstanding my frequent journeys into countries where endemic fevers prevail, I am preserved from them by not neglecting, for a single day, to take the Salt.

Occasionally I add to it quinine, strychnine, aconitine, and digitaline, according as I feel more or less feverish.

This leads me to say a word concerning the dosimetric method. (*Vide* next number.)

NOTE.—Dr. Burggraave gave an admirable address, entitled the "Necessity of Popularizing Medicine," at the opening of the great International Congress of Dosimetric Medicine, at Madrid.

This oration, which was delivered before the *élite* of the Spanish profession, and a large assembly of ladies and gentlemen, presided over by His Excellency the Minister of Public Instruction, contained the following eloquent and memorable words:—"Look at typhoid fever, can it not be likened to the Hydra with seven heads spoken of in mythology, one of which, being smitten off, sprung up again, more horrible than before? Should we not, like Hercules, strike it dead with one blow? That is what dosimetry does, by means of the defervescent alkaloids,—aconitine, veratrine, and especially strychnine."

Typhoid and other fevers can be cut short, and long and tedious convalescence spared, if the physician be called in promptly, ere certain complications (caused by the continuance of fever) have arisen.

The necessity of attention to the first signs of disease cannot be too strongly impressed upon all.

"Prevention is better than cure"; consequently a knowledge of the first principles of dosimetric medicine would save thousands of valuable lives, by pointing out the way to avoid disease and maintain health, whatever may be the surroundings.

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## THE PUBLIC SCHOOL IN ITS RELATION TO INSANITY.

(FROM AN AMERICAN POINT OF VIEW.)

By HENRY S. NOBLE, M.D., Assistant Physician to the Hartford Retreat for the Insane, Conn., U.S.

(Continued from page 8.)

In collecting this testimony, I have selected what may honestly be regarded as indicating the average results. I would not discourteously represent the public schools of Massachusetts as better than those of her sister States, and it is to be devoutly hoped they are no worse.

There is over and above all this another feature presented for examination, which is worse than failure; it is alarming and threatens to be disastrous. I refer to the mental and nervous condition which is the resultant of the popular system of education. When, in a state like Massachusetts, we

learn that asylum provisions are required for nearly 5,000 insane persons, or that the number of these unfortunate people is as 1 to 956 of the whole population, the medical profession is interrogated as to the cause and its remedy. Preventive medicine is as much the province of the medical man as the curative art, and is that branch of the profession in which the State is most interested. While the spread of epidemic and contagious diseases is carefully guarded against by the strictest sanitary and quarantine regulations under governmental control, little has been done to arrest the increase of insanity; indeed the States have had both hands full in providing for their insane, without inquiring whence the supply.

It would be impossible, within the limits of a paper of this kind, to enumerate all the conditions and circumstances, both predisposing and exciting, which conspire to render men and women of unsound mind. Indeed, were it possible, it would be irrelevant.

It is a melancholy fact, that of ten persons who become insane, five recover and five die, sooner or later, during the attack. Of the five who recover, not more than two remain well during the rest of their lives, the other three sustain subsequent attacks, during which at least two of them die. We are thus forced to the conclusion that madness is not wholly the result of fortuitous circumstances. That certain accidents, as anxiety, grief or ill-health, are reported as having conspired in a given case to produce mental derangement, gives us very little insight into the problem of real causation. How does it happen that another individual, subjected to exactly the same disturbing influences, does not go mad? It is certain that the aggregate of real causes cannot be the same, when the results which follow are so different.

The truth is, when we are estimating moral causes, we are dealing only with apparent and superficial external ones, and neglecting those internal and most potent defects which lie in the mental organisation of the individual himself. If all the circumstances, external and internal, could be carefully noted and appreciated, the disease would never be regarded as an accident or a divine dispensation, but the legitimate result of a chain of antecedents, covering the whole life and training of the individual, and more often that of his ancestry before him. Although, by some writers, hereditary taint has been reckoned as operative in the production of more than half the cases of mental alienation, it is foreign to our purpose to engage in a discussion of that class of inherent causes—they may be regarded as the natural or inevitable defects because inherited, and dismissed as beyond present remedy.

We cannot prevent the children of tuberculous or

phthisical parents from inheriting a tendency to the same or kindred disorders; we cannot prevent cancerous parents from planting the seeds of their malady in the organisms of their offspring; it is only the operation of the natural law, that like produces like. The harvest of grapes is not from thorns, nor figs from thistles.

Not so, however, with that other internal condition, the acquired insane diathesis, which results from the defective and vicious training of early life. Here is the legitimate field for the operation of prophylactic medicine; it is precisely here that the alienist physician may hope to accomplish something towards relieving society in some measure of the incubus of madness which is the scourge of modern civilisation.

The object of all mental and physical training in the young, is to fit them to bear the burdens of after life with equanimity and fortitude; to place them in sympathy with the great current of human progress as it rolls onward from one generation to another.

Life in every form, physical or mental, morbid or healthy, is simply a relation; its manifestations arise from a reciprocal action of the individual organism and external forces. Health, as the consequence and proof of a successful accommodation to the conditions of existence, implies the preservation, well-being and development of the organism; while disease marks a failure in organic adaptation to external forces, and leads, therefore, to disorder, decay and death.

Whatever contributes to develop the intellectual and moral character of the child, is a means towards enabling him to so accommodate himself to the conditions of life, that the friction itself may stimulate healthy growth, instead of stranding him a mental wreck upon society, ere the voyage is half finished.

Probably there is no more potent agency in the formation of the intellectual and moral nature of our youth, than the public school. How is it fulfilling this most important function, the function of all others it was created to subserve? Can what is taught there, and the way in which it is taught, be reasonably expected to produce symmetrical minds, with logical, vigorous, and healthy habits of thought? Can the cramming process, practised in the public school upon the minds of youth, during the formative stage, not only of the brain but of the whole physical system, produce men and women capable of grasping the general conditions and requirements of society, and adapting themselves thereto without friction, when individual responsibility takes the place of parental guidance? These are questions to which the statistical reports upon insanity in Massachusetts, Connecticut, and New York afford a sufficient reply.

In those fortunate individuals where the insane

temperament is not inherited, it may be, and often is, easily produced by enforcing an unnatural precocity in the methods of education. Parents and guardians who delight to see their children prodigies of learning or talent must bear in mind the risks of future disaster it entails; *In pueritia senex, in senectate puer.*

The aim of a good education is not realised in a smattering of many branches, and only a confused memory of each; it is in a discipline which shall develop a power and habit of thought capable of maintaining its equilibrium under the adverse circumstances of life. I believe more wholesome discipline is gained by a few subjects thoroughly mastered, than by the whole curriculum of the public school but half comprehended. "The man with one book" is a formidable adversary, but he gained his reputation before the days of public schools. Parents seem to consider that mental culture is embodied in leaving the grammar school at a certain age, and the high school at a prescribed period thereafter.

A certain number of boys and girls, each differing from the others in disposition, temper, mental power, and nervous organisation, are clamped to the lathe and turned to a pattern; the system takes no account of individuality. The going out and coming in; the rising, sitting, studying, and reciting are done by the pulling of a string or the stroke of a bell. The same penalty is measured out to the nervous, sensitive child, as to the vicious gamin from the gutter. The heedlessness of obstinacy and the confusion of diffidence are all the same to the machine.

Such is the practical working of a system which cost us in 1870 more than 64,000,000 dols.; and for what?

Go into the public examinations of these reservoirs of higher education and you will find "the mass of the pupils are unable to read intelligently, to spell correctly, to write legibly; to describe understandingly the geography of their own country, or to do anything that reasonably well educated children should do with ease. They cannot tell the meaning of any but the commonest words that they so illy read and spell; they can give rules glibly; they can recite from memory; they have some dry, disjointed knowledge of the various subjects studied;" in fact, they are well versed in what may be called classroom tactics, and in the presence of the School Board will doubtless perform some very astonishing intellectual evolutions, drilled upon for the occasion, until they have attained all the precision of a battalion of grenadiers on dress parade.

Now, what is to be the future of these embryo citizens, whose whole course of training during the early formative period of life has consisted in cramming, crowding, and over-stimulating the mind? Some, doubtless, who have inherited the naturally bright intellects and strong physique of their more

unlettered parents, will pass the ordeal and go on to achieve success in life, and the effects of their training will not immediately manifest themselves. The most we can say of these is that the number is few, and they may be regarded as the fortunate heirs of a princely inheritance. They are born under a lucky star, so far as they themselves are concerned; but there is an ulterior result which must not be lost sight of.

It is a fact of common observation that the children of the most highly cultured parents are few in number, and do not, as a rule, shine in life except by the borrowed light of their ancestry. They are too often small in size, deficient in physical vigour, of nervous organisation, and either only medium or inferior in intellect.

Apply to these youth the training of the public school, and you reap a crop of young men who seek relief from the lassitude of a worn-out nervous system in stimulants and narcotics. They are impulsive and emotional; brain action is irregular, and prolonged mental effort impossible; they are subject to alternating periods of excitement and depression by the most trivial circumstances. It is under these latter conditions that the habits of intemperance, so wide-spread among the better classes, are often formed, which only serve to make the wrecks more complete. The evil is wrought much in this way. When the nerve cell is called into functional activity, either too frequently or for too long a period at one time, there follows a state of exhaustion, during which, if further demands are made, the responses become irregular and uncertain, finally ceasing altogether. This is nature's method of preserving the nervous organisation from utter ruin; it means that a period of rest and recuperation is required which has not been received, though nevertheless essential. Allow this condition of exhaustion to supervene frequently and permanent loss of power results. Mental action above a very inferior plane cannot be carried on, and the individuals themselves, under the consciousness of such a fact, look about for some sort of relief. They find it, though a disastrous one, in stimulants and narcotics. Brandy, whiskey, chloral, opium, and cannabis indica are the crutches upon which an already over-stimulated brain seeks to hobble through a career of intellectual activity for which it has become unfitted, and such is what many a young man is trying to do.

The other sex is in a condition but little superior; they are sufferers from neuralgia, headache, and a score of ailments of nervous origin. Hysterical, feeble, and emotional, they gratify a morbid intellectual appetite by the sensational literature and drama of the period. Neurasthenia and spinal irritation are the fashionable complaints of the day, and the majority of women find no difficulty in

complying with the fashion. We read of no such diseases in the older works on medicine; they are pre-eminently the fruits of modern methods of training.

Does it require any special inspiration to say what shall be the fate of a large percentage of men and women so illy fitted to take up the duties and bear the shocks and disappointments of life?

These people have acquired what alienist physicians designate as the insane temperament. They are liable to caprices of thought and feeling, and although they may in general act calmly and rationally, yet now and then circumstances will surprise and overpower them, causing extravagant or eccentric actions, while the great and trying emergencies of life may upset the mental equilibrium entirely.

From over-taxation during the formative period of the brain, there is a tendency to independent and spasmodic action on the part of the different nervous centres. There is an acquired instability of nervous element, through which the mutual reaction of nerve cells does not take place properly, and harmony of function is replaced by irregular and erratic mentality. Such people occupy the border-land of insanity, and it is from their number that the rapid increase of lunatics in the States previously mentioned in this article have in some part come. It is probably true, that, could external conditions be controlled and shaped to the advantage of these impaired mental organisations, many might escape who are now the psychological windfalls of society; but when unfavourable action without conspires with an infirmity within, then the conditions of disorder are established, and a discord or lunatic is produced.

I have no doubt the advocates of the popular system of education will claim that the increase of insanity is due to an entirely different cause or set of causes, for the fact of such increase cannot be denied. Nor can it be gainsaid that the percentage of insane people among the native-born inhabitants is greatest in New England, nor that in this section Massachusetts and Connecticut, those States longest under the influence of the higher education, stand foremost upon the appalling record. Nor is it any excuse or palliation to claim that this would have taken place just the same without such influence, because the only justification for the existence of the system was the assumption that the training afforded was replete in all the essentials of good citizenship and social well-being.

It was the endeavour in the early part of this paper to show by figures a failure in both these particulars, and later to point out some of the disastrous results known by the alienist physician to have followed. Dr. Jarvis, in a pamphlet entitled *Relation of Education to Insanity* (1872), says: "Out of 1,741

cases, the causes of which are given, admitted into sixteen American asylums, 205 were attributed to excess of study."

Dr. Bucknill says: "Unquestionably, in England, at the present time, brain-forcing and the crowding of an immense number of subjects into one examination are doing most serious mischief."

Another English physician, speaking upon this subject, gives this opinion: "Too many hours' daily study, and the knowledge of an approaching examination, when the system is developing and requiring an abundance of good air and exercise, easily accounts for pale and worn looks, frequent headache, disturbed sleep, night-mare, and nervous fears. When the career of such students does not end in graduating in a lunatic asylum, they lose for years possibly always, the elasticity and buoyancy of spirits essential to robust mental health."

Dr. Carriell, of the Central Illinois Asylum, says in his last annual report, when touching upon the causes of insanity: "The effect of erroneous education undoubtedly has an influence in predisposing to mental unsoundness. Too early efforts at study, and too close application, overtaxing the faculties, are injurious in their tendencies and effects."

Dr. Stearns, of the Hartford Retreat, in speaking of the popular methods of instruction in our graded schools, thus sums up, in a vigorous and truthful manner, the results of his observations and experience in an institution the patients of which come largely from the better classes of society: "In our graded schools, pupils are parcelled out in numbers ranging from fifty to sixty, and put in one room under the charge of one teacher. Now, doubtless, one or two out of every five of these fifty or sixty can press on with ease and health through all the studies which all are expected to master, but for the other three or four out of every five there exists a large tendency toward confusion and imperfect knowledge, rather than vigour and strength of brain. In this respect, I believe, the education of fifty years ago was better than that of to-day. The teacher had a less number of scholars, while a few subjects were thoroughly mastered. A few books only were read, but what was studied and read was generally more thoroughly studied and understood. There were fewer confused and half-understood lessons and theories. . . . They were not crammed and confused by dim memories of a vast multitude of names or facts which could by no possibility have any important bearing on their future lives or fortunes. Knowledge, to be of much practical value in life, must be clear and definite in the mind of its possessor. When half-mastered, it tends rather to weaken and confuse than strengthen and invigorate."

Leaving aside the practical value in after life of the popular school training, we may truthfully say

that it fails even in the purpose of mental discipline. The athlete who seeks muscular development does not do so by attacking impossibilities; he avoids the heavy weights confessedly beyond his strength, and exercises with those which he lifts with ease and can toss with precision. So likewise in intellectual training; the task which by moderate effort is thoroughly mastered gives an added power, not gained in fruitless, incompetent endeavour; it is the victory and not the defeat which gives strength and confidence to the growing mind.

The conclusion which we reach, therefore, is that the public school training has failed in affording power and vigour of mind or the least originality of thought. That it has worse than failed, in that it tends directly to the production of mental weakness and disease, I believe to be equally true; and in these conclusions I believe I am sustained by statistical reports, and the testimony and experience of gentlemen making a special study of psychological medicine.

If the remedy has not already been foreshadowed in these pages, it may be briefly formulated in these terms: Teach fewer branches in the public schools, and teach them thoroughly. Let the course of study include only those subjects which are of practical value to every child in the commonwealth. Such as have time, talent, and strength, may have special training if they like, in those ornamental branches which now overwork and confuse the young during their school life, and even prevent the acquirement of the very elements of useful knowledge. A thorough elementary education is all that ought, in justice, to be provided at the public cost. If such were the case, we are of the honest opinion there would be fewer unproductive invalids, fewer young men and women trying to live by their wits instead of their hands, and finally, fewer mental wrecks to provide for in asylums at the public expense.—*Detroit Lancet*.

### A FEW HINTS TO SINGERS.

By **HERR EMIL BEHNKE**, Lecturer on Vocal Physiology at the Tonic Sol-fa College; author of "The Mechanism of the Human Voice," and Teacher of Voice-Production.

*The Choice of a Teacher.*—This is a matter of the highest importance, and it may be said at once that nothing can be more absurd than the common practice of at first selecting an inferior instructor, and of only going to a teacher of known ability for some "finishing lessons." Without attempting to discuss this matter with regard to other branches of education, I most emphatically assert that, for the proper formation of the voice, it is even more important to have the best instruction which can be obtained at the beginning than at a later period;

for the habits formed by a pupil during his earliest lessons will cling to him for good or for evil, and only those can form any idea of the difficulty of correcting the results of faulty training who have been called upon to take in hand a pupil whose voice had, to all intents and purposes, been already "finished" by someone else.

I would also record my strong conviction that it is best for a man to be taught by a man, and a woman by a woman. There are, of course, many things which a lady can learn from a master, or a gentleman from a mistress; neither do I forget that many of our most celebrated female vocalists have been trained by men. Nevertheless, the teaching process is often very roundabout, much having to be explained again and again by a master, which a mistress obviates by simply setting her pupil a pattern with her own voice. I go even farther, and say that the ideal voice-training consists in a pupil being instructed by an accomplished teacher with his or her particular kind of voice, that is to say, soprano by soprano, and contralto by contralto, &c. This principle is practically admitted by teachers availing themselves of their more talented and advanced pupils to sing a tone or a phrase, as the case may be, to the more backward ones; and a master who is much employed in giving singing lessons to children knows perfectly well that the little ones find it easier to imitate the tones of a fellow-pupil than those of his own different voice. The reason is that, quite apart from the question of pitch, the voice of the child supplies a true pattern, and that of the teacher does not.

*Breathing.*—Mr. Lennox Browne, in his admirable *Medical Hints on the Production and Management of the Singing Voice*, remarks upon this as follows:—"The art of forming a solid basis of voice by long exercise on a right method of breathing seems to be almost lost, or, if not lost, overlooked." And not only that, but it is positively ridiculed by men who ought to know better. Witness the following: "To a good singer it does not matter how he breathes, and a good singer never bothers his head about it." (*The Orchestra*, August 1881). And again, "That a man requires lessons in breathing is, I repeat, emphatically absurd." (*Musical Education*, November 1881). The fact is, that a person cannot possibly attain even medium rank as a singer without having perfect control over his or her respiration. We must know how to inflate our lungs in order to fill them abundantly without over-crowding them, and without any efforts causing fatigue and injuring the voice; and we must know how to regulate the exit of the air, so that it may take place in a steady, even, and uninterrupted stream, enabling us eventually to hold out a long tone, or to sing a long passage. In short, the singer's breathing corresponds to the violin player's bowing, and requires as much teaching.

*Tone-Production.*—I remember reading somewhere a critique upon the performance of a tenor, in which great stress was laid upon the circumstance that he had sung an upper C "from the chest." But the writer might as well have said, speaking of a bass instead of a tenor, that he had sung a low F from his boots. All vocal tone, whether it be spoken of as chest, throat, head, medium, mixed, falsetto, or what not, is produced by the vibrations of the vocal ligaments, and by nothing else. We can see this with the laryngoscope, and I shall be happy to demonstrate it in my own throat to anyone taking a special interest in the subject. It is, therefore, unnecessary to argue. But we must here notice one of the most important matters in connection with tone-production, namely, the "shock of the glottis." By this is meant the clear, distinct, and unimpeded striking of the tone corresponding to what is known as a good "touch" on the piano. It would be possible, if the scope of this article permitted it, to explain the exact nature of the shock of the glottis, but not how to produce it. This the reader must learn from his teacher, and I advise him to spare no pains to master it, as a tone badly started is ruined from the beginning.

*The Registers.*—My definition of the term "register" is this: A series of tones produced by the same mechanism. Everybody has heard of a tenor's "chest" and "falsetto" register. But there are others besides, and it is important to know them. Unfortunately the subject, sufficiently mysterious in itself, is made still more so by the use of names which are based upon sensations and fancies, instead of upon physiological facts; and to make matters worse, the same terms are employed to designate, for instance, the highest register in the female, as well as in the male voice, though they are formed by totally different mechanisms. The result is a perfect Babel of confusion, and I strongly urge upon all interested in singing to adopt the terms invented by the late lamented Mr. John Curwen. They are based upon scientific facts, and are perfectly intelligible; and persons making use of them cannot possibly misunderstand each other.

The whole of the bass, the largest part of the tenor, the lowest part of the contralto, and also a few of the lowest tones of the soprano voice, are produced by vibrations of the vocal ligaments through their entire thickness. This is the "thick register." The highest part of the tenor, the upper part of the contralto, and the medium part of the soprano voice, are produced by vibrations of the thin inner edges of the vocal ligaments. This is the "thin register." The highest part of the soprano voice is produced by vibrations of only a small part of the vocal ligaments, the remainder being held firmly together. This is the "small register." In each of the two first-named registers there are two

sub-divisions, so that we have altogether five registers in the human voice, namely, the "lower thick," the "upper thick," the "lower thin," the "upper thin," and the "small."

I am afraid it is not possible to make this matter as plain as it ought to be without a proper diagram, and I must therefore refer those desiring more accurate information to my *Mechanism of the Human Voice*, published by Messrs. John Curwen & Sons, in which the subject is treated very exhaustively. Let me, however, say here, to those whose attention is now for the first time directed to this matter, that, if they wish to study the question of the registers, they must listen to raw, untutored voices, and not to voices cultivated by skilful teachers who have made it their business and their pride so to blend and to unite the registers, that even a trained ear finds it difficult to distinguish the one from the other.

*Made Tones.*—There are still, unfortunately, teachers who seek to "extend" the voices of their pupils by forcing the registers upwards, and they are very proud of these "made tones" thus added to the voices under their care. But this kind of training is radically wrong, and inevitably leads to disaster. I am firmly convinced, by very extensive practical experience, that one great reason why we have so few tenors at the present time is that their "upper thick" is screwed up to an unnatural extent; while the "lower thin," which ought to be cultivated, strengthened, and united with the "upper thick," is totally and unaccountably neglected.

*Throaty Tone.*—Throaty quality is a very common fault in beginners. It arises partly from the arching up of the tongue, and partly from a stiffening of the throat. The tongue, we have it on the highest authority, is an "unruly member." It is very difficult sometimes to keep it under control, and there are many people with whom it is continually running away altogether. As in every-day life, so in singing: we want the tongue to lie, comparatively speaking, flat; but it refuses, and rises in rebellion. The result is that the tone is shut up at the back of the throat, which gives it a "throaty" quality. "Oo-oh-ah" exercises, and singing before a looking-glass so arranged as to enable the student to see the movements of the tongue without throwing himself in an awkward position, are the best means of getting over this difficulty. The stiffness of the throat alluded to above may be counteracted by singing *staccato* exercises upon the syllable "koo," which, as anyone can see in a mirror, has the effect of moving the voice-box up and down, thereby making a rigid position of the throat impossible.

*Nasal Tone.*—Contrary to a general opinion, this is produced by the lowering of the soft palate, compelling the tone to pass through the nose. It is, in many cases, very difficult to cure. But here, also, singing and making a few experiments before a



looking-glass will be found the best means of improving the tone-quality. It must be observed, however, that even greater care has to be taken in this case than in the treatment of throaty tone with regard to arranging the mirror; and it is necessary, above all things, so to manage the light as to throw it upon the back of the throat, enabling the singer to see the movements of the soft palate without assuming a constrained attitude. It will be found that the soft palate goes completely up in yawning, and that the mere thinking of a yawn has the effect of raising it. This fact ought to be made use of in the correction of nasal tone.

My space being exhausted, I regret I must bring my "Hints" to a close. I am aware that I have only touched upon a few points, and in a very superficial manner. But it is impossible to do more within the limits of a short article, and I hope that the suggestions which I have made may prove of service to some of my readers.

#### PUBLIC DOCTORS FOR NIGHT EMERGENCIES.

Our attention has been called to the want of some public provision of medical aid for emergencies in the night, and a case has been told us of a poor woman who bled to death while her husband and a policeman were trying for an hour to find a doctor. The matter is one of the gravest moment and ought to receive the most careful attention of the authorities. A medical man is not bound to give his services to the sick, even when the fee is offered to him beforehand, and therefore it might easily happen, as in the case above stated, that a man or woman may die before a willing doctor can be found. The idea of making it compulsory upon medical men to go to urgent cases when called and when the fee is forthcoming, is so utterly contrary to the spirit of the age that it need not be seriously entertained at all. How then are such catastrophes as that to which we have alluded, to be avoided? The answer is simple enough. In Paris and Brussels there is public provision made for night emergencies, and no one need suffer for want of a doctor if they will take the trouble to call at the nearest police station and ask for the services of one. There are a number of medical men who have signified their willingness to respond to any night call that may come, providing that it is made by a policeman; and these doctors are paid a good fee by the police authorities, who are allowed to reclaim it from the patient, or his friends, if they are in sufficiently good circumstances to allow of such a course being taken. About seven thousand night visits are paid every year in Paris to these public doctors. There is no reason why this should not be done also in London, where, already, the police are empowered

to summon, and to pay, medical men in cases of accident. This power might easily be extended, and a serious defect in our system be thereby remedied. The great objection to this arrangement would be its liability to abuse by unprincipled people; but proceedings might be taken by the police against such persons. It is very obvious that something must be done, and quickly too, for the people of this country will never quietly rest while their fellow-countrymen are dying for want of medical aid, whilst surrounded on all sides by doctors. Suppose, for instance, that a man bursts a blood-vessel in the middle of the night, and his wife runs off for the nearest doctor, who refuses to have anything to say to her, having, perhaps, been already up every night in the week. She runs along for the next nearest, with, perhaps, the same result, and after a long time returns to the house alone to find her husband just gasping his last. This is a hard case indeed; but it may be urged that common humanity would make the first doctor applied to at once respond to the call. This is true; but is it fair to impose such an infliction upon a class who are terribly overworked, or is it proper that the public should be at the mercy of people who may or may not be influenced by feelings of humanity? It is not every doctor who will listen to the particulars of the case, when he has been out for several nights in succession; neither are all medical men influenced by feelings of charity, though in justice it must be said that the large majority of the medical profession are particularly charitable. If some influential and benevolent persons would take the initiative, and form a society whose aim would be to remedy this dreadful state of things, the public would be greatly indebted to them. This is, undoubtedly, the best and readiest way of dealing with the matter; and having laid our statement before our readers, we leave it, trusting that some notice will be taken of it and some good results follow.

#### WORKHOUSE DISSECTING-ROOM SCANDAL.

A GRIEVOUS mistake or trick has been committed at the Sheffield Workhouse, which will be fully investigated at the next meeting of the guardians, with the view of discovering the perpetrator, and, if necessary, making an example of him. The affair, it is supposed has arisen from the negligence of a pauper inmate, and it has been stated that the recent dismissal of a pauper caretaker of the dead-house has something to do with it. The facts are as follows: In all towns where there exists a medical school it is customary to send all unclaimed bodies at the workhouse to the dissecting-room, for the use, under proper conditions, of the medical tutors and students. It appears that on the 21st ultimo, a man named John Wood, aged 86, was taken to the workhouse in an advanced stage of consumption, and died in a few



minutes after his admission. His body was conveyed to the mortuary and placed in a shell on one of the marble-slabs placed there for the purpose, to await interment. Shortly after the death of Wood, Thomas Ellis, aged 71, who had been in the workhouse about a year, died, and was also placed in a shell and taken to the mortuary, where he was laid near the shell containing Wood. A body being just then required at the medical school, a communication was made to the master of the workhouse by the lecturer on anatomy to that effect, and the master gave orders that the body of Ellis, being an unclaimed one, should be taken in a hearse, in the usual way, to the medical school, and a receipt in due form be obtained for the body. In some unaccountable manner, the body of Ellis got placed in the coffin which should have contained the body of Wood, and which had his name and age written on a plate on the cover, and the body of Wood was put into Ellis's coffin, which also bore his name and age on its cover. Consequently, Wood's body was taken to the medical school and sent up to the dissecting-room, where the head was immediately shaved, and other preparations for dissection made. Shortly after noon the following day, Mrs. Wood, accompanied by several friends, went to the workhouse to attend the funeral of her husband. She desired to have a last look at her husband's body; and, according to a statement made, James Tomlinson, one of the "funeral" men, without the least reluctance, removed the coffin lid. Then it was discovered that a gross mistake had been made, that the body of her husband had been removed to the medical school; and that, but for her anxiety to have a last look at the corpse, she would have followed to the grave one whom she never knew. The master of the house was at once informed of the blunder that had taken place, and he at once despatched a messenger to the medical school. He arrived at ten minutes past two o'clock, and in time to save the body from dissection. The body had not been operated on in any way. These are the facts of the case, and it remains with the Board of Guardians at their next meeting to find out who were the perpetrators—innocent or guilty—of this ghastly mistake.

**MEMORY IN CHESS-PLAYING.**—Wonderful as are the feats of chess-players, who can work out a game or a series of games without seeing the board, there is nothing really remarkable in them. When once mastered, the trick is not only fairly easy of performance, but the fact that the process is purely mental rather facilitates than impedes the action of the mind. To the "blindfolded" chess-player there is present a mental picture of the board with the pieces in position. He can change the position of

the men as easily as he can think, and after he has once mastered the difficulty of fixing the mental picture, it is distinctly before him. Some players, who do not in their common process of memory use picture-phantoms, work out the moves as algebraical propositions are occasionally worked, by phantoms of sound; but, as a rule, chess-players are mental picture-readers, and can at pleasure call up any one of several pictures of boards as they last conceived them. The most difficult feat, and one which very few mental chess-players can accomplish, is to play two or three games simultaneously, the moves made by their opponents being told them in close sequence and their own moves being directed after all the reports of the proceedings of their opponents have been received. Thus, if there be several players against the one mental player, he must be told and remember what each of his adversaries has done *before* he begins to give the instructions for his several counter-moves. In this exploit the most perfect development of the mental faculty of distinct picturing and the displacement and recall of mental pictures at will is exhibited. The prodigious difficulty of the feat can only be realised in the attempt to perform it. Even the expert blindfolded chess-player can rarely succeed in accomplishing the performance we have attempted to describe.—*Lancet*.

**BORING THE EARS.**—A great deal has been recently written on the subject of boring the ears "for the sake of the eyes." It is always easy to find excuses for any practice which ministers to vanity. That the counter-irritation set up by boring the ears and wearing a ring may, during the few days following the operation, have some effect on the eyes, supposing these organs to be the seat of any low form of inflammation, is just possible, but that permanent good should be done by wearing rings in the ears after they have ceased to irritate is inconceivable. The test for motive in the recourse to this device would therefore be willingness on the part of the applicant for this form of "treatment" to allow the healing process to be delayed (say) by wearing a rough ring dipped in some irritating application—in short, so prepared as to act like a seton! This, indeed, might do good, but in such a case probably recourse to a few blisters behind the ears would be better. It is nonsense to suppose the wearing of ear-rings can be of any service to the eyes unless they irritate, and if they do irritate, the process by which the result attributed to them is obtained is circuitous and, from a surgical point of view, awkward in the extreme. Science cannot prostitute truth to fashion even in so small a matter as the wearing of ear-rings.—*Lancet*.

**DOCTORS' DOOR-PLATES IN AMERICA.**—We take the following from a Canadian contemporary:—"Anent

doctors' signs," the *New York Record* says, "the brazen sign is large; it covers the whole door-post, it stretches from window to window; its lettering is brilliant, and it is set off with scroll-work in the corners; the passer-by sees it, and cannot but read it; small boys shout out the name as they go by, and adults mutter it over till they reach another block. It is judiciously placed so that the street-lamp illumines it at night. It affects the more public ways, and it indicates the astute and enterprising physician. He is one who maintains a dignified equipoise between the code which says, 'Thou shalt not advertise,' and the Bible which says, 'Let thy light so shine.' In these days, when æstheticism is in the ascendant, when every man of thorough culture lunches at least once a week on the sight of a lily, it would be strange if a love of the beautiful did not affect the style of that corner slab of modern civilisation—the subject of this discourse. The æsthetic sign, in its supremest development, consists of a black marble slab, in which the physician's name is carved and gilded. When especially 'intense,' the letters are old Roman, with golden punctuation marks, which delicately suggest to the looker-on that he should come to a full stop."

**FLOWERS IN BED-ROOMS.**—The public are again warned against the use of flowers in sleeping apartments; and wonderful stories are told of the deleterious effects which have followed their presence in a limited atmosphere respired by invalids. Curiously enough, these appalling "instances" of the evil influences of plants do not for the most part apply to flowers. Nevertheless, we agree that it is safe to banish growing plants and flowers from bedrooms. They can do no good, and they may do some harm, if only by rendering the air of the apartment irritating to the delicate lining membrane of the breathing-organs. We are not disposed to endorse or accept the charge brought against plants and flowers generally, but it is well to err on the side of prudence; and although it cannot be denied that these embellishments form most pleasing objects for the eye, this advantage must be sacrificed if, as alleged, they are injurious. There can be no doubt that some plants give off noxious emanations, and others may scatter particles which prove irritating; but are all vegetable growths thus injurious? However, as we have said, it is well to be over-cautious. So flowers and plants must needs be banished, though we part with them with unfeigned reluctance.—*Lancet*.

**CONDENSED MILK.**—In a communication published by Dr. Voelcker in the *Dairy Association's Journal*, he says that not unfrequently condensed milk is represented to be nothing more nor less than new milk evaporated, at a low temperature, to a certain degree, with the addition of white sugar. None of

the five samples analysed by him, however, were produced from whole new milk, but from more or less skimmed milk. If milk rich in cream is evaporated to a small bulk, even with the greatest care, the resulting condensed milk, when mixed with water, draws up oily globules, tastes somewhat rancid, and not so nice and sweet as condensed milk produced from partially skimmed milk. Really good condensed milk, as a matter of fact, is always made from skim milk, or from milk unusually poor in cream. However, apart from the greater price of condensed milk, it is not a perfect substitute for new milk, either chemically or physically. At the best, most kinds of good condensed milk are milk-syrups, consisting of concentrated skim milk and white sugar.—*Medical Press Circular*.

**A MAN WITH AN ELASTIC SKIN.**—A man is now exhibiting at the Westminster Aquarium a peculiarity highly interesting to medical men and others. This consists in an enormous and astonishing elasticity of his skin. He is able to raise this in folds from his trunk or limbs to the extent of more than a foot; and as soon as the traction ceases the skin resumes its normal position, neither folds nor depressions being visible. The procedure is entirely painless. When the skin is touched it imparts a sensation as if one had hold of a fine sponge, and as if it were much too large for what it covers. Even the hairy scalp and the skin of the nose and palm of the hand exhibit the peculiarity, but to a less extent than that of the trunk or arm. So delicate is the skin, and especially of the upper extremities, that when it is raised in a fold and held before a light, it is found to be transparent, exhibiting the course of the vessels. The "india-rubber" man is thirty-two years of age, and the peculiarity was first observed in his twenty-first year.

**TRANSATLANTIC MEDICAL LAWS.**—"In Maine," says the *St. Louis Globe-Democrat*, "they have a law that no medical student shall be allowed to graduate and practise medicine who has not had regular practice in the dissecting-room. Then they passed a law that no bodies, save only the bodies of executed criminals, should be cut up in the dissecting-rooms. Then, as a climax to all this, they abolished capital punishment. That's the kind of a country Maine is. This is like the County Commissioners who passed the following resolutions:—1. Resolved, That we build a new jail; 2. Resolved, That we build the new jail out of the materials in the old jail; 3. Resolved, That we use the old jail until the new jail is finished."

**PARSLEY AS A MEDICINE.**—Dr. Stanislas Martin, after observing that the use of mineral waters interrupted the secretion of milk, states that, as an external application, parsley-leaves act most efficaciously in dis-

persing it, and that they were used for this purpose by the Roman matrons of old. The breasts should be covered with freshly-plucked leaves, and these should be renewed several times a day as fast as they begin to fade. The dispersion of the milk soon takes place. —*Bull. de Thérap.*

**TO ANTIVIVISECTORS: THE LAST RESOURCE.**—The *Chicago Medical Review* has the following. "A gentleman called to consult a physician in regard to a serious form of rheumatism. The latter wrote him a prescription. As the patient was going away, the doctor called him back: 'By the way, sir, should my prescription afford you any relief, please let me know, as I am myself suffering from an affection similar to yours, and for twenty-years have tried in vain to secure any relief.'"

**PET ANIMALS AND CONTAGIOUS DISEASES.**—The fact that pet animals can carry contagion, and thus be the means of spreading fatal diseases, is not widely enough known or duly appreciated. We have heard of authentic cases in which scarlet fever was communicated from one person to another by means of a cat. Dr. Hewit, of Lake Superior, relates a somewhat similar instance, in which diphtheria was communicated by the same animal, two or three of his children dying in consequence thereof.

**A PRIZE**, of the value of £100, offered by the Equitable Life Assurance Society of the United States for the best essay on "Life Assurance," has been awarded to Mr. T. M. Dolan, F.R.C.S., Edin., of Halifax, Yorks.

## REVIEWS.

*The Mechanism of the Human Voice*, second edition (J. Curwen and Sons, London), by Emil Behnke, Lecturer on Vocal Physiology at the Tonic Sol-fa College.—This is a very useful little book, containing the valuable experience and careful research of the author. It is concisely written, in clear and untechnical language, and frequent allusions are made to such well-known authors as Huxley, Lennox Browne, Eberth, Carpenter, Marshall, Luschka, &c. There is no doubt that Herr Behnke is a thorough master of his subject, and we recommend all who have any regard for their voices to read this book. To professional singers, clergymen, barristers, and all public speakers, this little manual will be, indeed, a great boon.

*The Voice.*—We have received several numbers of this valuable periodical, which is published in Albany, New York, and can recommend it, to all who are interested in singing, as a first-class paper. It is, we believe, the only publication of the kind in the world.

## CORRESPONDENCE.

To the Editor of THE FAMILY DOCTOR.

SIR,—Your correspondent, "Unfortunately a Sufferer," is not the only one who has found himself suddenly the innocent victim of medical trickery. Let me advise the public never to apply to any hospital or dispensary that has not a full committee of respectable people and that does not issue an annual report and balance sheet. There are numbers of men who obtain medical diplomas by backdoor means, having no literary or scientific merits, and who, having become registered practitioners, open shops, which they term "dispensaries," and which they keep entirely in their own hands, robbing the innocent public in a most disgraceful manner. These men are usually apothecaries only, but sometimes even surgeons or licentiates of a college of physicians. Such men are shunned by respectable practitioners, and would receive little encouragement if the public would only make inquiries before visiting them, especially with regard to the constitution of their establishments.

Yours truly,  
ANOTHER SUFFERER.

To the Editor of THE FAMILY DOCTOR.

SIR,—Dr. Cameron's papers are very useful to us laymen, but may I ask a question on the subject?

I. Which one of the disinfectants best answers these conditions: it must

- (1) Destroy the germ or virus, or whatever the contagious principle is;
- (2) When used in proper dilution, be harmless to the skin.
- (3) Not stain the linen, or, at least, not destroy it; and
- (4) Not have an odour so powerful as to be offensive.

II. And in what strength must such a disinfectant be used to be effective?

The writer of the papers does not mention "Jeye's Purifier," and I thought the efficacy of chloralum and sanitas was still in dispute.

I enclose my card and remain, Sir,

Your obedient servant,  
E. W.

*W. P. L.*—1. Asclepiades, who was a Roman physician about 90 a.c., developed the Atomic theory, and was the original inventor of the shower-bath. 2. Certainly not. We know of no such person.

*R. G.*—The reason that the faculty of medicine of the Turkish Empire is so behind the rest of the world is, that the religion of the country is averse to dissecting the human body, Mahomet having forbidden it.

*J. H.*—Homœopathy was first practised in 1810. There are homœopathic colleges in the United States, many of which are first-class institutions.

*Lex.*—An American physician, no matter how learned, cannot legally practise in this country unless he possesses a registerable British diploma also. The same law applies to all foreign or colonial physicians. There will be an alteration in the law soon, no doubt. French and London medical degrees are of equal intrinsic value.

All letters and other communications for the Editor should be addressed to him at the Publishing Office, and, if for publication, should be written legibly, and on one side of the sheet only. Communications relating to subscriptions and advertisements should be addressed to the Publishers.

No notice will be taken of anonymous communications unless authenticated by the name and address of the author, which need not necessarily be published.

## NOTICE.

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## THE FAMILY DOCTOR.

## HYGIENE.

By JUNIUS HARDWICKE, M.D., F.R.C.S., Consulting Surgeon to Rotherham Public Hospital, and Borough Medical Officer of Health.

THE importance of Sanitary Science, or that portion of it called "Hygiene," which concerns the physical condition of communities, as a branch of medical and general education, can scarcely be over-estimated; and although the subject has been so much neglected by nearly all whose interest was not visibly and directly connected with it, there is much in its recent progress and present condition to encourage the hope that the time has arrived when its claim to popular attention will be universally recognised.

It may be said that to be born, to grow, to be the subject of disease, to decline and die, is the lot of all animals; and what knowledge can avail to alter the destiny? In reply to this, it is sufficient to state that millions perish annually from neglect of those conditions which Providence has appointed as necessary to preserve the body from disease; and that millions more are constantly suffering from pain and weakness which might have been prevented by a simple attention to those principles which it is the province of sanitary medicine to unfold.

The natural conditions which surround man, and which are essential to life, such as the air he breathes, the water he drinks, his food, the soil he moves upon, and the sun which warms and lights him, all influence him. His own acts in his social relations as a member of a community, with circumstances, trades, conditions of dwellings and clothing, of social and sexual relations, feelings, and personal habits,—all these affect his health, and require regulation and control.

*Hygiene*, in its largest sense, I consider means rules for perfect management of mind and body.

We cannot dissociate the two. The body is affected by every mental and moral action. The mind is influenced by bodily conditions. The Platonic axiom, "that mind and body should be well-balanced in their exercise and activity," must be respected. That the undue occupation of the mind with deep study or concentrated thought, abstracts a portion of the supply of blood and of vital energy from the bodily organs, whilst the nervous system becomes exhausted and refuses to perform its functions, is well established. Mental idleness, on the other hand, not only weakens the intellect, but, by inducing habits of indolence and self-indulgence, perverts the proper functions of the body, degrading them almost to the level of brute or vegetable life. Moderate exercise, and the mental impressions of beautiful scenery and interesting pursuits, refresh the mental powers, heighten the benefit of bodily exercise, and give that renescent energy to all the faculties which is expressed by the term "Recreation."

For a perfect system of Hygiene we must educate the body, intellect, and soul, *pari passu*, if we desire to see the human being in perfect beauty, as he came forth from the hands of his Maker; but whether such a state of things will ever be, we cannot say. It probably is part of the scheme of Providence that man should ever be subject to disease; trial in this form may be the cross he has to bear, until before perfect virtue suffering shall fade away—but whether in this world or not we do not know. However, this much we do know: that man can, even now, choose between health and disease, to a great extent as a *race*, although not always as an *individual* (as a man cannot always have control over the air which surrounds him, inasmuch as others may contaminate it); and, as time rolls on, let us hope that the choice will be for good, and then at least one half of the common ailments of daily life will be prevented. When we remember that the death-rate in infancy is materially influenced by a due supply of warmth, food, and good air; in every one of which the greatest errors have, from time to time, been committed by parents and by those who have the charge of the young; and that, in consequence, many thousands perish annually during the first few days of life from cold; and at a later period, when the infant is better able to maintain its temperature, an equal number succumb to improper food; and that those who are the least able to resist the baneful influence of bad ventilation die in infancy, whilst those whose natural vigour of constitution just enables them to struggle on against it, become victims, in later years, to disease, which cuts short their term of life (as the child is father to the man in body as well as mind), we shall be prepared for the following statements:—

Statistics show that the average of infant life in

this country is about 1 in 4½ up to the end of the first year; that the London workhouses, about a century since, presented the results of 23 deaths in 24 infants during the same period; but in consequence of a Parliamentary enquiry producing a better system of management, the proportion of deaths was reduced from 2,600 to 450 in one year, a loss of life of 2,150 infants being entirely due to mismanagement; and even now, with all our improvements in sanitary appliances, every tenth infant dies within a month of its birth. In the Dublin Foundling Hospital, during 21 years ending 1796, out of 10,272 sick children sent to the Infirmary only 45 recovered. Here, not only bad ventilation and improper food, &c. were in operation, but also the free use of laudanum to keep the children quiet, who were not supplied with nurses, but brought up by hand.—Of late the comparative number of deaths has immensely diminished. In London, between 1810 and 1880, no more than 82 in 100 died under five years of age,—less than one-third; and although the free introduction of vaccination has now, unquestionably, a share in the decrease, by mitigating that terrible scourge, the small-pox—yet it will be clearly seen that the principal reduction took place previous to the time when this operation came into general use, which was not until the commencement of the present century.

The average duration of life amongst the ancient Romans, as compared with the English of the present time, was two to three, notwithstanding the talk of our race having degenerated from their ancestors as to bodily and mental vigour. The term of human life has considerably increased within the last hundred years. The average mortality of the whole civilized world has decreased, and the value of life, or the probable number of years which anyone may expect to live, has considerably increased, as shown by insurance tables, which were computed seventy or eighty years ago, served as the basis for the calculation of insurance companies, and are now found to have under-rated the duration of life very considerably.

Still, there remains very much to be done whilst the evil of excremental poisoning continues, by which some 15,000 to 20,000 are annually killed, and twenty times that number seriously sickened and endangered through disease which prevails through the pollution of the atmosphere and drinking-water.

Given the existence of typhoid fever in a locality, add to this a neglected condition of the privies, ashpits, cesspools, and wells, and it is scarcely possible to conceive more favourable conditions for its spread.

Over-crowded and ill-ventilated dwellings are built upon a porous soil which is continually absorbing filth, with the wells which supply the drinking-water

sunk in an excrement-sodden portion of earth; then comes a drought, succeeded by a considerable rainfall causing a rise in the water-level of the wells, from the scouring of the foul soil flowing into the water supply of the population. This is no uncommon state of things to meet with, and here we must expect an outbreak of preventible disease.

That dampness of the soil of a locality is intimately connected with the prevalence of pulmonary consumption, cannot now be doubted. It has been abundantly shown in England by Dr. Buchanan, in Scotland by the Registrar-General, and in America by Dr. Bowditch, that a diminution or non-diminution in the amount of this disease depends very much upon whether the sanitary operations of a district have, or have not, included any considerable drying of the soil. Although, perhaps, this conclusion does not purport to be more than a contribution, along with other agencies, of the Etiology of Consumption, of which an unwholesome gathering together of men in indoor industries, and the immensely important factor "hereditary relation," are two others.

The effete matters thrown off in respiration are carbonic-acid gas, watery vapour, and certain very important, but at present undefined organic substances. According to the summarized results obtained by various physiologists, this organic matter is believed to be molecular, and, probably, hangs about a room like tobacco-smoke, which is difficult to be got rid of by ventilation; and which when drawn through water becomes offensive. It is certainly *nitrogenous*, and probably in combination with water. In a sick-room it is associated with pus-cells (*i.e.* cells of what is *commonly called matter*) and other emanations of disease. As much as forty per cent. of organic matter has been found in plaster from walls of a hospital ward in Paris. Practically speaking, the amount of organic matter in vitiated air is found to increase as the carbonic-acid gas increases; and Dr. Parkes says it becomes perceptible to the sense of smell when the carbonic-acid gas in an inhabited room amounts to 0·7 per 1,000 cubic feet of air, and weakness of circulation, shown by slowness of the heart's action and quickness of respiration, occurs; and that this is not produced by the carbonic-acid gas *alone* is shown by the fact that in soda-water manufactories, where the amount of carbonic-acid gas is as much as 2·00 per 1,000 volumes of air, no discomfort is felt, and the same smell and symptoms are not experienced.

But in ordinary respired air, head-ache and giddiness are produced in many persons when the quantity of carbonic-acid gas exceeds 1·5 per 1,000 volumes; this doubtless being as much due to the presence of organic effluvia, and diminution in quantity of oxygen, as to carbonic-acid gas; yet we must remember, that even a small excess of carbonic-acid

gas interferes with health, as, whilst there is an increase of carbonic-acid gas in the air, there is a like diminution of the quantity of oxygen, so that there is a retardation of that oxydizing process requisite for complete elimination of effete matters from the system.

It does not follow that because pain or discomfort is not felt from a vitiated atmosphere, that no harm is done—the effects may be slowly cumulative, but none the less injurious, and are recognised as being the most potent and wide-spread of all predisposing causes of disease. I need scarcely quote the deaths from this cause in the Black Hole of Calcutta, when, out of 146, 123 died during the night; or the 150 passengers shut up in the Londonderry steamer, on a stormy night in 1848, where 70 died before morning, the direct cause of death being asphyxia (or suspended animation from want of pure air). But the fact that putrid fever attacked many who were carried out *alive* in the Calcutta disaster, showed plainly that the fetid exhalations to which they were exposed, must have aided largely in destroying the immediate victims.

All physiologists agree that re-breathing of matter thrown off the skin and lungs produces a kind of putrescence of the blood. The history of the Black Assizes, in the 16th, 17th, and 18th centuries, furnishes terrible examples; jail fever even spread from the court where the prisoners were tried.

John Howard complained of the offensiveness of his *clothes*, and even his *memorandum* book, after visiting prisons. Dr. Murchison says: "Jail fever was frequently generated *de novo*, in consequence of overcrowding and deficient ventilation."

All zymotic diseases are more specially fatal, and spread most in densely populated and badly ventilated districts; and thus, in our endeavours at sanitation, we must set out with the conviction of the fact which has been clearly proved, that the quantity of oxygen is always sensibly diminished in the air of towns. This oxygen, by which nature renders organic substances innocuous, is in constant activity, and without its purifying agency sanitary measures would be in vain.

Meanwhile it is encouraging to sanitary efforts to find that, as civilisation advances, epidemics decrease in frequency and intensity, and that nothing tends so much to weaken their power and circumscribe their range of action as a free circulation of pure air in inhabited places, a good supply of pure water, and a sufficiency of wholesome food. The great aim of the medical profession has hitherto been to cure diseases when established, but, in our own times, their greater aim is to prevent disease establishing itself at all, if it be possible. The enlightened portion of the public is also becoming aware of this fact, from the teaching of the medical schools, and are anxious to be saved from these evils, which they learn can

be prevented by the use of proper means. Those acts which promote public health, promote, also, public wealth. We live in an age of progress. The subdivision of labour in medicine is now recognised, as in other branches of science. The study of State medicine is a speciality, which must be insisted upon by all institutions which undertake to educate our students in medical science. The State has also now passed a compulsory measure for imposing upon local sanitary authorities the duty of appointing medical officers to supervise the health of the inhabitants of every portion of the kingdom, and has divided, for that purpose, the whole of England into urban and rural sanitary districts, presided over by the local authorities.

In youth much depends upon gaining such an ascendancy of mind over body, of moral over animal feelings, as will conduce to the establishment of habits of temperance. The regular, but moderate application of the intellectual powers to some definite object worthy of pursuit, and mental discipline, steadily persisted in, must conduce, not only to health and strength of mind and body, but also to lasting comfort and happiness.

The masses must be taught that good conduct, personal cleanliness and the avoidance of all excesses, are the first principles of health-preservation—that mental and physical training must go hand in hand. The people must be interested in the general results of sanitary progress, and become acquainted with causes by which it is impeded, if they desire to enjoy "*Mens Sana in Corpore Sano*."

### DOSIMETRIC MEDICINE.

By DR. BURGGRÆVE, late Professor of Medicine in the University of Ghent, and Principal Surgeon to the Civil Hospital. Translated from the French by DR. H. A. ALLBUTT, Physician to Leeds Dispensary for Skin Diseases.

It is not necessary to speak about diseases to the public: to frighten it concerning its health always savours of quackery.

If we say here a word concerning *dosimetric medicine*, it is because this mode of treatment has especially for its object the *prevention* of diseases, and that the public should encourage physicians to practise this method.

Considering that I have exercised the art of healing for nearly fifty years, I believe I have acquired sufficient right to address the sick: *Commit yourselves to physicians who follow the progress of science*. Routine is a bad counsellor, for it has eyes which cannot see, and ears which cannot hear. It is nearly ten years since the dosimetric method was first made public, and everyone enabled to appreciate the results.

What is dosimetric medicine?

I shall here let the *Lyon Médical* speak: a journal to which the late Dr. Munaret—a truly popular physician—addressed his weekly chats. This is how he expresses himself:

"I lately met, at Lyons, one of the 'Princes' of local medicine, who deigns to honour me with his friendship; and, in the course of a familiar discussion, he shot at me this Parthian arrow, without waiting for my reply: 'Dosimetry, what is it?—I am going to endeavour to learn from you, my dear confrère; and I thank you again for having afforded me the opportunity of expressing myself—once for all—about a great problem for study, of which the solution interests at the same time both physicians and patients.'

"The dosimetric method is more than a system, it is a reform:—for the system is not an idea, the dream of an old man; whilst a reform (from the Latin, *reformare*) indicates a new and better form of a thing which has its *raison d'être*.

"It is, therefore, a reform of the whole of therapeutics, neither more nor less; that is to say, a therapeutics adequate to nature and the progress of every disease, which employs the immediate (active) principles of medicinal substances\* in the form of perfectly soluble granules, which are readily absorbed, without exciting in the patients either loathing or uneasiness.

"With these granules, we know what we give, and we avoid the danger, as with the preparations of the official pharmacopœia, of giving more or less than is necessary, almost at hazard. They are administered in centigram, milligram, and even half-milligram† doses, until we obtain the physiological effect or sedation of the symptoms.

"Such a simplification in the form and composition of the medicament, united with convenience of administration, could not escape the attention of practitioners. Professor Burggraave (of Ghent) experimented on his part, and once convinced of the superiority of this *modus faciendi*, he established the method which he named *dosimetric*, and has entirely devoted himself to its popularization. Notwithstanding his great age, he has travelled more than once through the whole of Europe; he gives extempore conferences in each town where he stays, which compel the handling of the most critical and disputable points of a theory, 'new to each one.' He displays an erudition and a conviction which he communicates voluntarily to his auditors. In addition

to the above he still finds time to write volume upon volume, to reply to daily consultations addressed to him by physicians both in Europe and America; and thus journeys, conferences, consultations, &c. compose the basis of a very interesting journal, the *Répertoire de médecine dosimétrique* (a journal which is now in its eighth year, and prints 10,000 copies a month).

"Such zeal is rare, is it not, in this period of medical nihilism? and well deserves to be signalized. But zeal is within all ardent natures. What bears witness to the 'merit' of Dr. Burggraave, is that he has been able and willing to restore completely the vitalism (*natura medicatrix*) of Hippocrates, by numerous and lengthy experiments, at first on himself and then on the patients, in the great hospital at Ghent, of which he is the principal surgeon, and by very cleverly drawn physiological deductions. The Belgian professor has had knowledge of the wants of the age, after the unlucky deceptions of polypharmacy;\* he has had perception of the curative power of nature, and has made it profit poor suffering humanity, disgusted with the cookery of the old pharmacy.

"To jugulate all acute diseases at the outset: intermittent, remittent, and even continuous fevers, this idea—the foundation of his whole method—came to him when, as a surgeon, he beheld, at his hospital, so many operations miscarry in consequence of fever, which he can now prevent by his method.

"Paracelsus and Van Helmont had their panacea; Arnold de Villeneuve wrote a treatise on the art of preserving youth,—*De conservanda juventute*. Dr. Burggraave is less assuming; he has issued some good little books on hygiene, which are quite new, and here is his recipe for a long and healthy life: some granules of strychnine (arseniate or sulphate), aconitine and digitaline: two or three of each to be taken every evening on going to bed, and a teaspoonful of the Chanteaud Seidlitz in a glass of water, on rising. For several years he has very successfully used them: he obtains perfect repose at night, and has no physical fatigue on awaking, and his cerebral activity, far from failing by years, sustains itself, as proved by the immense authorship of which he is the chief.

"At his outset, in France, our Belgian confrère received support which held out encouragement to him: 'I altogether sympathize with your ideas on the dosimetry of medicaments,' wrote Jules Guérin to him, 'and I shall lose no opportunity of making the best use of it.'

"Speaking in his journal concerning the same method, the late Dr. Marchal de Calvi, a medical prophet, did not hesitate to say that the work of the professor of Ghent would remain in great estimation.

\* For example, *quinine*, the active principle of cinchona; *morphine*, the active principle of opium. We can understand that in the form of granules the remedies are more convenient to swallow.

† Roughly, the centigram equals 1-6th gr. (Eng.), the milligram 1-65th gr., and the half milligram 1-180th gr.—H. A. A.

\* Medicines of many ingredients.—H. A. A.



"I commenced by having faith in the experience of the author of dosimetry, and I experimented upon myself and my patients, and have obtained astonishing results. Savans, descend from your pedestal and become humble like us, modest country physicians. We are not savans, but healers; what can we be besides?"

"Dear and learned confrère, I take the liberty of quoting to you some remarks of another convinced practitioner, Dr. Taulier: 'Experiment in your turn,—you will learn to understand dosimetry, better than by these same lines addressed to you; you will believe it also, and will not hesitate to practise it with your entire devotion.'

"DR. MUNARET."

A name so popular in France as that of the author of the work *Le medecin des villes et des campagnes*, is a guarantee of the confidence and credibility which is now accorded to all which he has written. I have not hesitated to reproduce his appreciation of the new therapeutics.

I have also addressed myself to physicians, leaving out all pompous and deceitful editorial announcement; and I have been rewarded by the trust which they have placed in my sayings.

The present small treatise is intended solely to keep the public well informed as to what has taken place in the domain of facts. Dosimetric medicine will endure because it is the only rational medicine, the only system in which confidence can be placed.

It will not be useless to reproduce here the testimony of physicians who have impartially tried the dosimetric method.

"I have been bewitched by the simplicity of your method, and intend to experiment."—Dr. Molinier, Dreux.

Several favourable observations follow:—

"Your method of therapeutics charms me more and more. As an old practitioner, I am not easily worked up to a pitch of medical—or rather medicinal enthusiasm."—Dr. Payen, Hussein-Bey, Algiers.

"I do not hesitate to avow to you, you accomplish for our art a progress in which we all profit, both patients and physicians."—Dr. Nérat, Paris.

"To assist your method, with medicaments always certain, you overthrow, to the advantage of patients, polypharmacy, of which the results are so uncertain; you make up the insufficiencies of allopathy, and reduce to nothing homœopathy, which is but expectation. You accomplish, therefore, a veritable revolution in the therapeutic arsenal, and with the assistance of active and sincere colleagues you may hope that your method will ere long be universally adopted."—Dr. Duvignaud, Bordeaux.

M. Duvignaud is one of these colleagues, and I express to him here my entire gratitude.

"My confrères turn a deaf ear when I speak to them about granules, they think I am an homœopathist; but they will pay attention at a later date to the evidence of facts." Dr. Couder, Soignies.

"I am nearly of the same age as Dr. Burggræve, and am

by no means astonished at his persistency, as I foretold him that ere long his method would be enthusiastically accepted."—Dr. Fayole, Guéret.

"I like to peruse your journal again and again, and feel pleased when your ideas agree with those of my favourite authors, as Hufeland, Andral, Chomel, Wunderlich, &c."—Dr. Nesser, Lens, Pas-de-Calais.

Several observations follow which show how completely the dosimetric medicaments have succeeded:—

"I believe that your dosimetric method is the true progress, and I keenly appreciate its vigour, its precision, and its experimental character. You make the same use of medicine at the bedside of the sick as the physiologist does of physiology in his laboratory."—Dr. Sabatier, Professor at the Faculty of Medicine, Montpellier.

"Since I began to practise your dosimetric method—that intelligent application of physiology—I appreciate it, and am satisfied with it. It gives me pleasure to speak concerning your system."—Dr. Bourdon, Méru, Oise.

"I am one of your most ardent adepts in dosimetric medicine; it has rendered me the greatest services during the two years in which I have almost exclusively practised it."—Dr. Vigier, Châteauneuf, Loiret.

"I have been making trial for some time of your dosimetric method, and with so much the more zeal as it appears to answer largely the expectations which you have promised."—Dr. Henrard, Herstal, Liège.

"Having cured by your method of therapeutics diseases which had resisted almost every other kind of treatment, I come to ask you to assist me with your advice concerning the following case (occipito-frontal neuralgia)."—Dr. Vaudey, Brienne, Aube.

"The dosimetric method tends every day to obtain credit in the opinion of the medical public, and counts a number of adherents."—G. J. Remy, Secretary of the Veterinary Confederation, editor of the *Echo Vétérinaire*, Liège.

"It is lamentable to think that the little attention most practitioners accord to innovations should be an obstacle to the prompt generalization of your system. I have experimented with your granules, and the finest success has crowned my efforts."—Dr. Leclercq, Chièvres, Hainaut.

"I intend to practise dosimetry, because in the greatest number of diseases allopathic medicine has given me no result."—Dr. Pouvreau, retired naval Surgeon, Thors, Charente-Inférieure.

"In veterinary medicine minimum doses are more efficacious than massive ones."—J. De Laute, Veterinary Physician to the Government, Havelange, Namur.

This declaration is important, coming as it does from a veterinarian who is capable of giving an opinion concerning the excesses of allopathy.

"The reading of your *Répertoire* and *Manuel Pratique de Médecine Dosimétrique* has made me a true partisan of your new system of medication."—Dr. Lamy, Maintenon.

"I cannot forget that it is you who first opened to me the path of true medicine, that which is destined to stand firm amidst the chaos of scholastic systems."—Dr. Droixhe, Huy, Liège.

"I have had for a long time a sincere esteem for yourself and your labours—amounting, believe me, almost to a kind of feticism. It is because I have studied your works, and flatter myself that I understand them; it is because I desired to comprehend all that I undertook, that now, without having need of you to depend upon, I come with all honesty to inform you that I am devoted to you during the rest of my life."—Dr. L. Hebert, Chief Pharmaceutist, Hôtel Dieu, Paris.



"Your doctrine has already made so many partisans that I thought it was time I should look into it. . . . After having practised as an allopath for fifteen years, I wished to judge for myself whether facts bore out your seductive ideas. I spoke of this to several colleagues, but they only shrugged their shoulders. . . . My curiosity was too strong, and now I am convinced; I believe that if true therapeutics is not in dosimetry it is nowhere."—Dr. Fournier, Cannes.

"I am now convinced of the efficacy of your method, and am certain that it is the sole medicine of the future."—Dr. Tauchon, Saint-Vaast.

"I have read carefully the journals, and Dr. Burggraeve's excellent 'Address to the Physicians of Great Britain,' with much profit. The knowledge of dosimetric medicine is to me like a sparkling spring to a thirsty, weary traveller, in a desert path."—Dr. Bowie, Edinburgh.\*

"I perceive so much that is totally unsatisfactory and foggy in our present modes of treatment, that I would most eagerly hail any system founded on a more philosophical and scientific basis."—Dr. Linde, Lydbrook, Ross.

"I have great pleasure in informing you that I believe in the practice as well as theory of dosimetric medicine."—Dr. George Wilson, London.

"I hope I shall find in the pages of your journal the fulfilment of a want which I have felt these many years past—of treating diseases by alkaloids, and thus checkmating the absurdities of homoeopathy by globules (granules) themselves: *similia similibus curantur*!"—Dr. Wake, London.

"I hope to see the day when a chair of dosimetric medicine will be established in all our medical schools, and beds set aside for the exclusive treatment of patients by the method in one or more of our hospitals."—Dr. J. W. Davies, Ebbw Vale, Monmouth.

"I am treating many cases by the dosimetric method with very great success."—Dr. Channing Pearce.

"I consider the dosimetric system of medicine to be second to none, as far as my humble opinion goes after twenty-five years of practice."—Dr. C. A. Cutmore, London.

"I have had some little experience of the dosimetric method, and I think very highly of the treatment. I intend to continue my experiments, and shall be happy to inform you as to the results."—Dr. J. S. Barrett, London.

"I cannot help thinking that in the long run some of our hospital men may be induced to give the Chanteaud granules a trial, and that is all they want."—Dr. Walter Scott, London.

"I am indebted to the courtesy of some unknown friend for a copy of the October number of your *Journal of Medicine*. Having seen long since a characteristically gratuitous and coarse attack on dosimetric therapeutics, according to the method of Professor Burggraeve, in various journals of the dominant sect in medicine, I forthwith concluded that there was a commensurate amount of healing virtue in the wings of some new Angel of Light, ideally, or a fresh scintillation from the Torch of Science, practically; and I rejoice to state that such pleasing anticipations have been more than realised, especially in the graver forms of common maladies."—Dr. William Hitchman, Liverpool.

"I am using the dosimetric medicines—i.e. those alkaloids most familiar to me—and digitaline, and find them very useful *allopathically*."—Dr. C. M. Jones, Plymouth.

"It will be no small honour to have been among the first to join in this important therapeutic reform, the beneficial

effects of which are now beginning to be felt throughout Europe and America."—Dr. Phipson, editor of the *Journal of Medicine and Dosimetric Therapeutics*, Putney, London.

"I am glad to see that Dr. H. A. Allbutt is taking up the dosimetric treatment so warmly; it only requires to be tried to be appreciated."—Dr. W. S.

"I have treated several cases most successfully with the Chanteaud granules, among them being one of *angina pectoris*, and another *capillary bronchitis* in a baby two weeks old, whose recovery was quite marvellous and rapid."—Dr. C. Elliott, Bristol.

"I have had several cases before cut short by the dosimetric granules, but none which so clearly has shown their power to jugulate acute diseases (case of typhoid pneumonia, jugulated in three and a half days), whose *inutile histoire naturelle* we have hitherto been content expectantly to watch. To all who are in doubt or wavering, I would recommend 'Try and you will see'—*Essayez et vous verrez*."—Dr. Benjamin Walker, Spondon, Derby.

"An immense advantage will be gained, too, by the medical man being enabled to give the prescribed dose at once, without delay, for often much time is lost before the patient can get his medicine after he has been seen by the doctor. The prescription has to be sent to the chemist, prepared and sent home, and thus many valuable hours are lost at the onset of an attack."—Cutting from an English newspaper.

"Whatever we may think of the method of treatment, which I confess I do not at present quite understand, I think the plan of administering medicines in small but *guaranteed* doses is admirable."—A Physician.

"I tend you a subscription for your very valuable and long wanted journal. I shall endeavour to put in practice this new method of treatment."—Dr. H. A. Allbutt, Leeds.

"Thanks for the journal. I am patronising the granules largely, and recommending them a good deal."—Dr. R.

"My medical man has done some good work with them. He considers them the perfection of medicine. Though he does not yet prescribe them in all instances, he keeps them by him, and always carries a few tubes in his pocket. Please tell Dr. Phipson this. . . ."—A Lady.

"There is no doubt that dosimetry will be a very great triumph ere long."—Dr. A.

I might multiply these declarations; but those which I have given will suffice, I believe, to induce physicians who have not yet rallied round the standard of dosimetry, to make trial on their parts. I may add that the dosimetric method has spread throughout the whole world, and that at this moment six journals relating to it are published in England, France, Spain, Portugal, Italy, and Holland. I cannot give a better proof than the above of the hearty reception which this method has received in those different countries.

Those persons who read this small treatise are requested, after having read it, to communicate its contents to their friends and acquaintances. They cannot spread abroad too much such useful knowledge.

## THE ACTION OF WATER ON LEAD PIPE.

By PROF. W. L. DUDLEY.

It is my purpose to present to you some facts concerning the corrosion of lead pipes by water. In these facts I do not claim any originality, since

\* I have considered it advisable in this little work to substitute a few testimonials from English Physicians for the Foreign ones in the French edition. These I have culled from the pages of *The Journal of Medicine and Dosimetric Therapeutics*.—H. A. A.

many of them have *long* been known to chemists, although others may be of more recent discovery. It is merely my desire, therefore, to call your attention to the discoveries which have been made and the theories which have been advanced in this direction.

In nearly every house in this city and in all large cities, the water which is used for culinary and bathing purposes is conducted through lead pipes; yet how few are they who suffer from lead-poisoning; and why? Is it because the water has no solvent action on lead? Is it because the water is not allowed to remain in contact with the lead for a sufficient length of time? Or, is it because the water contains such impurities as precipitate the small quantity of lead which may dissolve? These are questions with which we have to deal in considering this important subject, and it may be worth our while to discuss them.

A few months ago, a gentleman came to me with a sample of water which he said his family used for bathing purposes, and that his child had suffered from peculiar symptoms indicative of lead poisoning. He therefore desired an examination of the water to ascertain if any lead was present.

On questioning him I found that the water was rain-water which had been collected in an ordinary cistern and pumped into a tank lined with lead, from which it was circulated for use. The tank was filled each night and emptied during the following day. In giving him instructions as to the manner of collecting the sample, I told him to empty the tank that night completely, fill it with water, and the next morning draw off about one gallon into clean well-stoppered glass bottles.

The quantity brought me was 3,700 cc., which I evaporated on a water bath to 100 cc.; a few drops of nitric acid were then added, the solution filtered and saturated with hydrogen sulphide. A slight dark-brown precipitate formed, which proved to be lead. The quantity was, of course, small, but more than sufficient to condemn the water and forbid its use.

This water fell in a comparatively pure atmosphere, not contaminated by the smoke, carbonic acid gas, &c. from the city. It was allowed to stand in the tank for twelve hours, and yet it contained an appreciable quantity of lead. Now let us see how we can account for this.

The first question that arises in our mind is—does pure water dissolve lead?

Professor W. R. Nichols, who has devoted much of his attention to the subject of impurities in water, examined the water supply of Boston, U.S., and in his report contained in the Massachusetts Board of Health Report, 1871, he makes the following introductory remarks: "Perfectly pure water, in the absence of air, has no action on metallic

lead; if, however, lead be immersed in rain-water, or in ordinary distilled water, there is almost immediate action; and if, after a lapse of a few minutes, the liquid be agitated, there will be seen an abundance of white scales of the hydrated oxy-carbonate of lead. This violent action seems to be due, in considerable measure, to salts of nitrous acid, especially nitrate of ammonium, always present in such water, and to be affected by the formation of some nitrous compound of lead, which is more soluble in water than the oxy-carbonate, into which it is almost immediately converted by the carbonic acid of the air or by that which is dissolved in the water. In all waters also, hard and soft, there appears to be formed at first an oxide (or hydrate), and this is also more soluble than the oxy-carbonate; if lead be partially submerged in water, there will always be found on it, after some days, at the surface of the liquid, yellowish white crystals of the hydrate of lead, along with crystals of the oxy-carbonate. The bluish gray coating which forms on the surface of lead exposed to a moist atmosphere is a practically insoluble sub-oxide."

After examining ten samples of water from Cochituate Lake, which had been subjected to various conditions, Professor Nichols arrives at the following conclusions:—

1. That Cochituate water, which has passed through lead pipes, is never absolutely free from lead.

2. That when the water is first introduced into the pipes, more action on the pipes takes place, as far as contamination of the water is concerned, than subsequently, but after a few days service the quantity of lead in the water is practically very small.

3. That there is always more lead in the water after it has stood for some hours in the pipes than when it is allowed to flow freely.

4. That when the water passes through a lead-lined tank it will be likely to contain in solution or suspension a most considerable quantity of lead salts, from the fact that the lead is corroded more rapidly on the sides of the tank at the surface of the water. Moreover, in such tanks there is generally a considerable surface in contact between solder and the lead.

5. That in the introduction of water into the pipes the first effect is the tarnishing of the brightness of the lead due to the formation of the oxide or sub-oxide; that there begins to form, almost immediately, a coating consisting, on the outside, of a brown and, at first, rather loose deposit (the colour of which is not due to iron-rust, as is ordinarily supposed, but to organic matter), and underneath of a white deposit, composed mainly of the carbonate of lead. That this coat increases in firmness and thickness; but this process is very

slow, and it practically never renders the pipes unserviceable.

6. That pipes used to convey hot water are corroded more or less rapidly, a deposit similar to that in the cold-water pipes being formed, and the corrosion manifesting itself most decidedly in the vicinity of the solder points, and where the pipe is sharply bent.

When pure lead is placed in a bottle with distilled water which has been freed from all air by boiling or other means, and hermetically sealed, it will remain unchanged, the water having no solvent action on it; but if the cork be drawn and the water be exposed to the air for a few minutes, a perceptible amount of the lead will be dissolved.

According to Storer, metallic lead, when in contact with distilled water exposed to the air, but protected from carbonic acid, becomes covered with crystalline scales of the hydrate of lead, which is slightly soluble in the water; while Stalman (Dingl. pol. J. clxxx. 866; Jahrs., 1866, p. 290), says that the action of water on lead requires, moreover, access of air, and free carbonic acid; if the air is completely excluded, or if the carbonic acid is removed by an absorbing agent, no action takes place. Medlock (Phil. Mag. vol. 14, No. 4, p. 209) says lead is unacted upon by perfectly pure water; but is very rapidly corroded by water containing nitrous acid or nitrates in solution; or ammonia, or nitrogenous organic matter from the decomposition of which nitrous acid may result. When he speaks of "perfectly pure water" he means not only water distilled, thereby being freed from solid matter, but also that which contains no air or other gases.

By this action of water on lead, hydrogen gas is evolved, as the lead goes into solution. Boiling water dissolves lead more rapidly than cold water. According to Stolba when 10 to 20 grains of granulated lead are boiled with pure water, 1 to 2 cc. of hydrogen are evolved in ten minutes, the liquid becoming turbid from the formation of the hydrate lead oxide, and it acquires a strong alkaline reaction.

The salts of lead vary in solubility in water; one part of the sulphate requires 20,000 parts of cold water to dissolve it (Fresenius); the carbonate requires 50,000 parts of water (Fresenius); the oxy-carbonate is but slightly soluble (Yorke); the phosphate is altogether insoluble (Mitscherlick, Fresenius); the sub-oxide is insoluble (Horsford); the hydrated oxide is soluble in 7,000 (Bousdorff), or 10,000 to 12,000 (Yorke) parts of water; the chloride dissolves in 185 parts of water (Bischof); and the nitrate in about 8 parts of water at ordinary temperature.

The carbonate and oxy-carbonate are so nearly insoluble that it has been said that if water contained in a leaden tank be exposed to the air for a

sufficient length of time, it will absorb enough carbonic acid gas from the air to precipitate any lead which might have been dissolved. Accordingly Faraday proposed (Rep. Chim. app. 1, 498) the addition of powdered chalk to water collected on a lead-covered roof, maintaining that the lead would be entirely precipitated and the water rendered potable.

Rain falling in the purest atmosphere will inevitably contain some organic matter, nitrates and ammonia. In consequence of this class of impurities the water has a much greater solvent action on the lead than that which contains sulphates, carbonates, and phosphates. It is on this principle that we are saved from serious poisoning from our hydrant water. Our river water contains some sulphates and a large amount of carbonates which precipitate any lead that may have been dissolved, and thus sometimes forms a coating in the pipes.

The greatest amount of corrosion in lead pipes takes place in the joints and curves.

When lead pipes convey the water from iron mains, it is said by some authorities that the iron-rust will prevent the corrosion of the lead pipes, whereas Professor Nichols thinks that it assists in the corrosion, since it is well known that when bits of mortar or plastering fall into lead-lined tanks, there is rapid corrosion in their immediate vicinity, "so," he says, "that the influence of carbonates may not be altogether good."

Carbonic acid gas in excess will assist in the solution of the carbonate of lead.

The conclusions to be drawn from these statements are various. Since rain-water, which has been collected from the purest atmosphere, always contains some organic matter, nitrates, nitrites, and ammonia, and since these substances, or their decomposition products, readily corrode lead, it is therefore advisable to beware of lead pipes or tanks when such water is in question. When the water used is from a *well, stream, lake, or pond*, which contain considerable quantities of carbonates and sulphates in solution, it is perfectly safe to use lead, and lead which might be dissolved would be almost completely precipitated by their presence, although it is a good plan to allow the water which has stood in the pipes for a considerable length of time (as, for instance, overnight) to run out completely before using.

The presence of free carbonic acid gas in the water increases its solvent action on lead, since the carbonate which is first formed is quite soluble in water containing the gas; therefore the use of lead pipes in soda-water fountains, or as receptacles for any effervescing liquids, should be avoided; also pewter which contains lead has caused serious trouble when used as nozzles in connection with such liquids.

In examining premises physicians may well keep in mind these points; although they look insignificant, yet they have been proved to be sufficient for consideration to secure the safety of inhabitants.

In cases where the water is such as to be dangerous in contact with lead, tanks should be recommended lined with tile or cement; for the supply, iron or well-tinned pipes should be used. In soda-fountains, block-tin pipes are almost universally in use, and are perfectly safe.—*Cincinnati Lancet and Clinic*.

### EFFECTS OF BATHS.

Cold water contracts the muscles and capillary vessels of the skin and of those tissues upon which the immediate effect of the cold is felt. After the cessation of the cold stimulant the contraction is succeeded by dilatation of those vessels, and we find the opposite mechanical process in the local influence of heat. The tissues become relaxed under application of heat, and as soon as the heat is removed the vessels again become contracted, and the circulation again accelerated. The final result is in both cases similar, an increased circulation being caused in the skin and parts exposed to the influence of the bath. Cold baths are not so long endurable to the general feeling as warm baths, on account partly of the sensation of cold being less agreeable than that of heat. In a cold bath the respiration becomes deeper, and the heart's contractions retarded. The surrounding atmosphere also is denser and richer in oxygen. In the warm bath less air is breathed, and there is less oxygen in the surrounding atmosphere. A healthy man, whose muscles have become weakened by sedentary habits, is strengthened by a cold bath and aroused into a more active state. Violent exercise will make a man weary and muscularly weak, and no better restorative can be found than a warm bath. Napoleon always was accustomed after a day of battle to take a warm bath, so that he might be able to march during the night and fight again next day. A high temperature in a bath suits individuals whose constitutions cannot compensate for the loss of heat without effort and loss of strength whichever bath be taken—whether cold or warm—and it is not very important to a healthy man whether it is cold or warm, provided that too great an extreme in either case be not reached. It is most necessary that the body be washed well each day, so that the skin may be purified from the deposits which are left behind as the residue of the cutaneous secretions and of the shedding of the outer layer of the skin. The more frequent the purification of the skin is from this crust, the more will free perspiration be promoted, which is essential to good health. If a

man's movements be vigorous, he has less need of ablutions than if they be slow and seldom exercised. In vigorous health, and during active exercise, the continual friction of most parts of the skin produces free perspiration, which opens the pores of the skin, and thus keeps it in a healthy condition. A man who is engaged in a dirty occupation, such as foundry work, should bathe regularly and often, as also should the sedentary man; but the out-door labourer needs much less ablution. The infant, again, should be frequently washed, because its lungs discharge their office feebly. Probably few people are in ignorance of the danger we run daily from contagion and infection, and when we consider how often in the daily routine the residents of our busy centres of trade exchange paper, coins, and other articles with each other, it is truly astonishing that the people of our large cities are not more frequently contracting various diseases the one from the other, and living in a state of chronic disease of a contagious nature. Undoubtedly people often do contract these maladies from interchanging coins, paper, &c., and when we know such a danger to be in our midst, it is but reasonable on our part to take measures to prevent ourselves being infected unwarily. The best means of protecting oneself is by frequent ablutions, so that the collection of particles on our skins, mixing with the perspiration can be frequently removed, and thus less chance be run of contracting disease. It is surprising how seldom city people wash themselves thoroughly, and how seldom they indulge in a swimming bath. With so many opportunities around them of bathing regularly, it seems to be tempting Providence to neglect the main rules of health; and our working classes may rest assured that they must give up their strange aversion to water if they hope to enjoy healthy and happy existences, and be free from disease.

**HURRIED DINNERS.**—It is a mistake to eat quickly. Mastication performed in haste must be imperfect even with the best of teeth, and due admixture of the salivary secretion with the food cannot take place. When a crude mass of inadequately crushed muscular fibre, or undivided solid material of any description, is thrown into the stomach, it acts as a mechanical irritant, and sets up a condition in the mucous membrane lining that organ which greatly impedes, if it does not altogether prevent, the process of digestion. When the practice of eating quickly and filling the stomach with unprepared food is habitual, the digestive organ is rendered incapable of performing its proper functions. Either a much larger quantity of food than would be necessary under natural conditions is required, or the system suffers from lack of nourishment. Those animals

which were intended to feed hurriedly were either gifted with the power of rumination or provided with gizzards. Man is not so furnished, and it is fair to assume that he was intended to eat slowly. We must apologise for reminding our readers of facts so familiar; but we do this in the hope that any who may chance to have influence with the managers of large hotels where dinners *à la table d'hôte* are in vogue will take measures to bring about a much-needed reform in the manner in which these entertainments are conducted. At the best and most frequented establishments in places of fashionable resort, where in the season multitudes of health-seekers are wont to congregate, the hurried dinners are not only causes of annoyance, but actually go far to prevent the benefit which should be derived from a change. No sooner is one course served than another is introduced, without giving the guest time to digest or even to swallow the first. The eagerness to secure good dividends takes a particularly mischievous form when it piles food on the plate of a customer, and compels him to consume it breathlessly. The matter may seem a small one, but it is not so. Just as a man may go on for years with defective teeth, imperfectly masticating his food, and wondering why he suffers from indigestion, so a man may habitually live under an infliction of hurried dinners, and endure the consequent loss of health, without knowing why he is not well, or how easily the cause of his illness might be remedied.—*Lancet*.

**SUPPERS.**—Suppers are a mistake, unless they are in fact, if not in name, late dinners, and taken at a reasonably early hour. When our forefathers consumed their principal meal at midday, somewhere between our breakfast and lunch, they supped heavily at seven or eight o'clock, and went to bed about half-past nine or ten. This was equivalent to dining at the time now commonly chosen for our heaviest meal. We have, in fact, gone back to the old way of life, merely changing the names of our meals; but we commit the extreme folly of sitting up far into the night, and some of us get hungry again, and must needs have supper, if it be only a dish of broiled bones. These same bones, or rather the slices of meat on them, take, according to Beaumont's tables, which, be it remembered, refer only to the *stomach* process, nearly three hours to digest. It follows that the digestive organs are not left free to fall into a state of physiological rest or sleep until towards morning; and when they do sleep from sheer exhaustion, they not unfrequently wake the brain by some collateral trouble, the result of their somnolence. The maxim of health should be—sup early and sup lightly; or if you do dine late do not sup at all; and in determining what a light supper really is, bear in mind that some of the articles of diet which are deemed light and digestible

really take a prodigious time for their disposal. For example, fine wheaten bread requires fully three hours and a half, and the farinaceous foods generally fall into the same category. In short, for a speedy relief of the stomach from its labour and difficulties with a view to sleep, many of the descriptions of food which are justly esteemed for their nutritious value are unsuitable.—*Lancet*.

**ENFORCED CELIBACY.**—It seems that in certain districts of this land of liberty the guardians of public order must be unmarried. That is a remarkable regulation—as some may think, remarkably short-sighted on the part of those who conceived the rule and those by whom it is maintained. Enforced celibacy in any rank or condition of life is a social blunder. It may be well for the individual or the class, but it is of evil example and influence in society, and ought to be interdicted. We know the inevitable results of restriction imposed on marriage in the army; the State recognises the mischief-working consequences of this regulation with one eye, while the other is closed to the facts. So it is with celibacy and its contingent results everywhere, whether in the Church or the world. The community *knows* the rule is detrimental to the best interests of social life, although, in some circles at least, there is a strange lack of courage to avow it. Voluntary abstinence from marriage is one thing, and rests with the individual; it is seldom a wise policy, but with that consideration society has no right to concern itself. For the enforcement of celibacy in any class of public servants the community is responsible; and if there is a want of average common sense on the part of our local authorities, public opinion must interpose to supply the deficiency, and, let us add, to relieve those by whom it is manifested of duties they are unfitted to discharge.—*Lancet*.

**CLEARING OUT FEVER DENS.**—It is satisfactory to note the progress, slow as it is, of the sanitary demolition of fever dens. Much difficulty, the *Lancet* says, has been encountered in many districts in consequence of the "paying" character of the house property which it was required to destroy. The owners of tenements sublet in single rooms, or small sets of apartments, generally receive a total rental greatly in excess of that which is obtainable from a single tenant. For example, in the course of inquiries instituted in Westminster some years ago, it was ascertained that the owner or leaseholder of a house of moderate size, for which £100 a year would have been a high rental, obtained on the average of a series of years between £250 and £300. This may have been an exceptional case in the sense of being an extreme of profit, but it may be fairly taken as a typical instance of the results which accrue from

a process of subletting to the poor. In many instances the gains of the landlord are increased by systematically neglecting repairs. In few cases is much attention paid to dilapidations, in scarcely any is a single shilling bestowed on the drainage or ventilation of property of this class. It is easy to understand that any movement inaugurated with a view to destroy such houses as those to which we refer must encounter serious opposition. It is therefore, we say, satisfactory to find that any great progress is possible.

**EXPLOSIVE LAMPS.**—The number of accidents with lamps burning materials which give off explosive or highly inflammable gases is, says the *Lancet*, very large. The papers, of course, only notice the cases that end fatally, either as a result of direct injuries inflicted by the explosions or, as in a recent instance, by the ignition of clothing and bad burns. For every such case there are, probably, a score or more of cases in which severe though not fatal mischief is done. It is much to be regretted that the use of explosive or excessively gaseous oils and spirits is increasing. Among the humbler classes of the community the use of candles for lighting purposes, and particularly in work-rooms—which are for the most part also living-rooms—has ceased. The cheaper lamps—and they are very cheap, and wonderfully unsafe as a rule—are made to burn materials that readily explode. It is a pity the heavier oils, which do not give off dangerous gases or vapours, cannot be used instead. The difficulty arises from the costly construction of the necessary lamp. Something ought to be done to remedy this evil, and to provide an apparatus for lighting which is at once safe and cheap.

**PUBLIC MORTUARIES.**—The importance of the provision of mortuaries, for the sake of public decency, if not for that of the public health, has not long ago received a forcible exemplification in some occurrences at Wednesbury. At a meeting of the sanitary authority of that place, complaints were made that the body of a sergeant of police had been gnawed at by rats whilst lying in a public-house awaiting an inquest. The members were indignant that such “a revolting occurrence,” which “was a disgrace to any civilised country,” should have occurred; and resolved to petition “the county authorities to make alterations in the regulations respecting the removal of dead bodies” (whatever this may mean). But it does not seem to have occurred to any of them that the remedy lay in their own hands; and that, if they had chosen to exercise the power conferred upon them by Section 141 of the Public Health Act in providing a public mortuary, the scandal would not have occurred. It is, indeed, lamentable to think how many towns,

even the largest, are without this most necessary and important provision. The mortuary need not be large or expensive in construction; but it is essential that some such building should be available in every town for the reception of corpses that cannot be kept at home with decent seclusion or without danger to the health of the living. Moreover, there are numerous cases of sudden death of persons unknown, or cases of drowning, in which it is essential that the body should be kept for identification; and a mortuary would be most useful for this purpose, to say nothing of its value in judicial cases. In some of the districts in the metropolis, notably in the city of London, the Coroner's Court has a mortuary and *post mortem* room attached to it; and it would be a great boon if such a structure could find a place in all large centres of population.—*Brit. Med. Journ.*

**ALLOPATHS AND HOMŒOPATHS.**—The well-intentioned and good-natured apologies for homœopaths, and consultation with homœopaths, indulged in by Dr. Bristowe and Mr. Jonathan Hutchinson at the recent meeting of the British Medical Association, have evoked such a storm of professional dissent and righteous indignation as has not been elicited by any question of ethics for many a day. The universal disavowal of the views entertained by these gentlemen by the great mass of the body medical, proves conclusively that the general professional conscience is still uninfected, and the ability to discriminate between moral right and wrong as yet intact. The regular profession to-day declines to recognise “toy medicine and therapeutic jugglery,” or to connive at the assumed adoption of an exploded dogma as strenuously and honourably as ever.

**INCREASE OF NEGROES IN THE UNITED STATES.**—M. Chervin, in a communication to the Paris Société de Médecine, draws attention to the fact that while up to the census of 1860 the negroes in the Northern States numbered 4,880,000, in that of 1880 they had increased to 6,577,151, *i.e.* an augmentation of 85 per cent. This is a result well worthy of attention, for it has always been hitherto admitted that when an inferior race is placed in contact with a superior one, with which it has to maintain the struggle for existence, it is always, in a future more or less near, condemned to disappear in consequence of the excess of deaths over births. M. Chervin attributes this great fertility of the negro race in the United States to the liberty which they now enjoy there, and believes that a very different result would have been observed had it continued in a state of slavery.—*Union Méd.*

THERE are upward of 100,000 lunatics in France, or one to every 850 of the population. In America the proportion is about one to every 500.

**FOLLOWING A PRESCRIPTION CLOSELY.**—"Did you present your account to the defendant?" inquired a lawyer of his client. "I did, sir." "And what did he say?" "He told me to go to the devil." "And what did you do?" "Why, sir, I came to you."

**THE REVENUE FOR PATENT MEDICINES.**—According to a return just issued the number of licences to sell patent medicines taken out during the year ending the 31st of March last was 18,754, for which there was paid the sum of £4,688. The revenue derived from stamps for patent medicines during the same time amounted to £139,762, which represented 17,198,442 stamps of different values.

**ABERNETHY ON TABLE-HYGIENE.**—There are still, we believe, some apostles of rapid eating among the doctors in this country. We commend to their attention the following interview (from *Sam Slick*), which is worth a hundred lectures: "The Honourable Alden Gobble was dyspeptic, so he goes to Abernethy for advice. 'What's the matter with you?' says the doctor. 'Why,' says Alden, 'I presume I have the dyspepsy.' 'Ah!' says he, 'I see—a Yankee, swallowed more dollars than you can digest.' 'I am an American citizen,' says Alden, with great dignity; 'I am secretary to our Legation at the Court of St. James.' 'The devil you are!' says Abernethy; 'then you'll soon get rid of your dyspepsy.' 'I don't see that inference,' says Alden. 'But I tell you it does follow,' says the doctor, 'for in the company you'll have to keep you'll have to eat like a Christian.' It was a pity Alden contradicted him, for he broke out like one mad: 'I'll be d—d,' says he, 'if ever I saw a Yankee that didn't bolt his food whole like a boa constrictor. How the devil can you expect to digest food that you neither take the trouble to dissect nor time to masticate? It's no wonder you lose your teeth, for you never use them; nor your digestion, for you overload it; nor your saliva, for you expend it upon the carpets. You Yankees load your stomachs as a Devonshire man does his cart, as full as it can hold and as fast as he can pitch it in with a fork, and drive off. And then you complain that such a load is too heavy for you.'"

**HORSE-MEAT SAUSAGES.**—The use of horse-flesh in the manufacture of German sausages is stated to be the last discovery of the Poplar District Board of Works, who have determined to employ a special inspector to detect such cases. "If," says the *Echo*, "the manufacturers would only honestly call their sausages by the right name, we do not see why they should be hindered. A horse is certainly a cleaner animal than a pig."

## REVIEWS.

*The Food we Eat; why we eat it; and whence it comes* (Griffith and Farran), by J. Milner Fothergill, M.D., edited by A. Beatrice R. Fothergill.—This handy little volume should find its way into all families, as it contains much valuable information, concisely and untechnically written. The first chapter gives a description of (1) starch, (2) albuminoids, (3) fats, and explains clearly how starch becomes converted into sugar, the mode of digestion of albuminoids, or nitrogenous foods, and the absorption of fats by the intestinal lacteals. The next two chapters explain the reason why we eat, and show that while meals have other and widely different aspects from the body-requirements and tissue-needs, yet our principal object in eating is to supply the blood with the pabulum for our body. Chapter IV. explains what this pabulum consists of, and describes the two great divisions of food, food-fuel and tissue-food. The remainder of the book is devoted to a description of the different kinds of food, including nursery food, invalids' food, and alcohol; and concludes with a very amusing and interesting chapter on the dietary of 2,000 A.D., at which period of the world's history our descendants are to possess brains without stomachs. Altogether, the little book is well worth reading, being both amusing and instructive; and we prophesy for it a large sale.

## CORRESPONDENCE.

To the Editor of THE FAMILY DOCTOR.

SIR,—Perhaps you will kindly tell me whether I am rightly informed that King Charles I. had small-pox after having been vaccinated, and that considerable opposition to vaccination was thus generated.

I am, Sir, yours truly,

A CONSTANT READER.

[We imagine our correspondent must be joking. It is quite true that Charles I. had small-pox in 1632; but considering that vaccination was not discovered until 1796, we do not see how the king's misfortune could have any effect upon that practice.—ED.]

*Bart.*—Apply to a respectable medical man.

*W. D.*—London University and Royal Irish University.

*Lex.*—H<sub>2</sub>O, which means two parts of hydrogen gas, and one of oxygen gas.

*Mary Ann.*—The lubricating lozenge of Messrs. Mackey, Mackey & Co., Bouverie Street, is the best.

*Enquirer.*—Certainly not a mineral.

*Modus Operandi.*—Mercury is a valuable remedy in some diseases. It does cause salivation sometimes, if injudiciously employed.

All letters and other communications for the Editor should be addressed to him at the Publishing Office, and, if for publication, should be written legibly, and on one side of the sheet only. Communications relating to subscriptions and advertisements should be addressed to the Publishers.

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## THE FAMILY DOCTOR.

## SIMPLICITY, COMMON-SENSE, AND INTELLIGENT SUPERVISION IN SANITARY APPLIANCES.

By P. HINCKES BIRD, F.R.C.S., F.L.S., S.Sc.S. Cantab.; Norfolk Square, W.

REFERRING to the slow rate of sanitary progress, it was remarked by myself some time since, that "what is really wanted is instruction in cheaper and easier methods of sanitation than those recommended by rival inventors, and a little common sense on the part of the public;"—in relation thereto I will now briefly touch on fresh air, pure water, excreta and refuse treatment, isolation, disinfectants, and on one or two social matters connected with sanitary science.

*Fresh Air.*—My unpatented plan of "costless ventilation" was described in the *Builder*, March 1862, modifications of which more or less complicated, inefficient and expensive, have been patented; even the use of letter-box and door-knocker,—when the fan-light above would be more effectual and absolutely costless, and the depths of absurdity have been reached by ventilating coat-hooks and finger-plates,—better effected by the top of the door itself,—bringing the noble science of sanitation into ridicule and contempt.

Illustrating as it does the principle of "costless ventilation" so efficiently,—common sense would suggest that the sand-bag too frequently placed over the meeting-rails to prevent fresh air coming in, should, in the greater part of the year, be introduced under the lower sash, so as to allow air to enter at the meeting-rails, with that upward direction which, although a century old, has lately been brought prominently before the public as something new, and numerous patents acquired, the invalidity

of which has become patent to several rival firms. The asphyxiation of a nobleman, or the blood-poisoning of a bishop at some Sanitary Congress, "crowded to suffocation," might stimulate the application of common sense to room ventilation. That atmospheric sewer, the Underground Railway, continues so poisonous and suffocating that a chemist living near to one of the stations admitted that he had twenty applications a day for "restoratives," in which doubtless alcohol takes part;—the Medical Temperance Association should see to this—although I am assured on the best authority the above statement is sensational in the highest degree.

The recording sanitary angel doubtless rejoiced at the deposit of the original models of "costless ventilation" in the Parkes Museum of Hygiene; but the accusing sanitary angel must have noticed, with a tear, that at the late Exhibition of Sanitary Appliances at Stafford, and at all the previous ones,—while unpatented "costless ventilation,"—which has been before the public for a quarter of a century,—passed unappreciated, a medal was given for a patented invention which had neither originality nor common sense to recommend it. "Dans veniam corvis, vexas censura columbas":

"You overlook good things and give prizes to rubbish."

Sanitary light dawneth at last,—at the late Croydon Congress, a Certificate of Merit was awarded to "costless ventilation";—thus described in the "Sanitary Hints" circulated in the districts to which I was Medical Officer of Health. "Pure air is less dependent on cubic space than on efficient ventilation, which may be secured by the following simple and economical method:—Raise the lower sash of the window two or three inches, and fill the opening underneath the bottom rail with a piece of wood; this leaves a corresponding space between the meeting rails in the middle of the window, through which a current of air enters, and is directed towards the ceiling, whence it should escape by a valvular opening."

At the late Meeting of the British Association at Cork, the eloquent attack against antiseptic surgery, and the counter-blast that it should be carried out in its entirety, will tend the more to embarrass immature judgment; it would appear, indeed, that there is a fashion in things sanitary as in other matters. Ozone, about which such evasive answers had to be given to inquiring laity, is waning in favour of peroxide of hydrogen, "the powerful antiseptic of the day." Dr. Barlow, in the *English Journal of Anatomy and Physiology*, gives the following epitome of his experiments:—Ozone depresses the nervous system, probably by overcharging the blood with carbon dioxide. It diminishes the normal respiration, and thereby diminishes the heart's action, these

\* *Sanitary Record*, Jan. 4, 1878.



being probably caused by the ozone affecting the character of the mucous membrane of the lungs. The alteration of this membrane by the ozone if it be present in large quantities, or if the air breathed with it contain a large quantity of carbon dioxide, may produce death from asphyxia within an hour. If the proportions be less, still death may be caused from bronchitis; and the inhalation of an atmosphere containing one part in 100 parts by weight of air for an hour may also cause death from bronchitis. There is no evidence to support the idea that ozone enters into the circulation. These results would seem to show that epidemics of catarrh (inflammation of the mucous membranes of the air passages) may be caused by an excess of ozone in the atmosphere, but unfortunately the normal amount present in the atmosphere is not accurately known, and so it is impossible to say when the ozone is in excess. Professor Barlow suffered while performing his experiments from a very obstinate cold in his head, the affection becoming greatly aggravated on his sniffing, however gently, the air charged with the ozone in small quantities. "Ventilate, ventilate, ventilate," then the less need of antiseptic treatment. With perfect ventilation—by scientific cleanliness and surgical isolation of each individual patient—the accidents of surgery, so frequently fatal, may be eliminated; in fact, the Listerian system may be said to be the outcome of defective sanitation. We have tithe with iodine, thymol, and carbolic acid, but neglected the weightier matter of efficient and constant ventilation; common sense and intelligent supervision will tell us how to effect ventilation with simple appliances instead of "the weak inventions of the enemy" to sanitary progress daily thrust before a too confiding and too credulous public—newspapers being found in tubes, house-maid's dusters in propellers, which are, moreover, liable to get out of order and break down. We need not dilate on the paramount necessity of plenty of fresh air, with plenty of light,—if possible, sunlight,—

"Since light so necessary is to life  
Nay, almost life itself."—MILTON.

Although "ungrateful odours common sewers diffuse," Professor Tyndal asserts that diseases are propagated not by effluvia or sewer gas, but by solid particles discharged into the atmosphere by currents of air or gas. Whether the atmosphere, and consequently water, contain organised germs or not, it is not less certain that heterogenists and panspermists alike admit in air apparently pure the presence of dust composed of the most diverse detritus; but we may never realise the germ by the highest lenses—even supposing it positively exists. Doubtless carbon dioxide in the repose of the laboratory or brewer's vat may be easily demonstrated as heavier

than common air, and in consequence we are so frequently reminded that the outlets of vitiated air should be below: "Le mouvement de haut en bas a pour avantage de supprimer les courants d'air et de débarrasser rapidement le local du gaz acide carbonique produit, soit par la respiration pulmonaire et cutanée, soit par les combustions, car l'acide carbonique étant plus lourd que l'air, s'accumule toujours dans les couches inférieures de la masse d'air de l'enciente" (Dr. de Pietra Santa, *Journal d'Hygiène*, Nov. 6, 1879); and moreover, by others, the importance of the existence of an outlet for hot, impure, devitalized air, is not only ignored, but denied, exhibiting an ignorance of physics and sanitary science, dense, total, complete, and thorough.

"Although the carbonic-acid gas given off from the lungs is rather more than 87 per cent. heavier than the oxygen which is consumed: still, in consequence of the dilatation of its volume by the increased heat, and the greater levity of the vapour given off from the lungs, the air is specifically lighter at the moment of its expiration than at its inspiration. For 800 cubic inches of pure air at the temperature of 60°, and the dew-point 40°, will weigh 243·395 grains; but 800 cubic inches of air at 95°, containing eight and a half per cent. of carbonic-acid gas, and 5·6 grains of vapour, with the dew-point 85°, will only weigh 232·450 grains; being nearly five per cent. lighter. Hence air, when expired from the lungs, always rises upwards, and will flow through ventilators in the ceiling, or the upper part of the walls of a room, if such be provided for its escape; but otherwise, the vapour condenses, and the volume of the air collapses as it cools; it then becomes heavier than the substrata of air, and sinks to the lower part of the room, contaminated with impurities."\* So I trust we shall hear no more of this sanitary fallacy. Common sense will guide us how the means of escape for warm impure air can be cheaply and economically realised by a simple unpatented apparatus introduced close under the cornice of the ceiling, as described many years ago.† Hot air, however, will not flow out until cold air comes in to force it; the effect of the plenum impulse of the air on outlets has not received that intelligent study required for success,—a good many arrows, as shown in the illustrations, going wrong:—

"With this regard their currents turn awry,  
And lose the name of action."

Whatever may be the future of the electric light for public and domestic purposes, gas will be re-

\* Hood on *Warming and Ventilating Buildings*, Fifth Edition, p. 840.

† On the *Ventilation of Rooms, House Drains, Soil Pipes, and Sewers*, p. 8. C. L. Marsh & Co., 138, Fleet Street.

quired for heating fire-places, conservatories, and halls,—always on the understanding that the products of combustion are taken off by flues,—the successful action of which will always require intelligent supervision, and possibly indomitable perseverance; *experto crede*, the illuminating power of gas can be immensely improved by carburetting.

I may remark, on the still vexed cowl question, that although the great sanitarian of the day, in his lecture on the "Health of Great Cities," states, "Since these excellent ventilators have been introduced we have now got perfect methods of ventilation," a correspondent to the *Sanitary Record*, September 15, 1879, on trumpet-mouth outlet ventilators, speaking of the above "perfect method," affirms it *blew down* at the rate of 490 feet, while his 3-inch fixed ventilator *drew up* 550 feet; but this, as the assertion of a rival inventor and patentee, must be taken *cum grano salis*, and really in many sanitary questions we are fain to exclaim with Pilate—"What is truth?" It is hardly necessary to refute the extraordinary statement issued by the Sanitary Institute, that the only object these exhaust cowls appear to serve is to prevent the admission of rain, which they say could be accomplished in a much less expensive and simpler manner—viz. by open pipe; this is contrary to common sense, which tells us that exhaust cowls above with air inlet below must act beneficially, of which I have had a quarter of a century's experience in my own house; notwithstanding which a disinterested sanitarian has sought to embrace in his specification this and every possible cowl-idea known ages ago;—in the reconstruction of the British Lying-in Hospital, "cowls of the simplest pattern are employed on the upright shafts." The method of testing at the "Kew Experiments" was incorrect, and therefore the tests are valueless . . . "that neither in the case of the cowls nor the tubes was their true value as extractors ascertained."

*Pure Water.*—Cardinal Manning, in speaking for a deputation of working men to the Home Secretary, stated that he could bear testimony to the evils endured by their class by reason of the unwholesome character of the water-supply, and as they were all water drinkers could speak with some weight on this subject. The two points specially referred to were—1st, an increased death-rate, believed to be attributable to the quality of the water; and 2nd, that which was now acknowledged on all sides to be a great evil, the immense prevalence of drunkenness, which they believed to be promoted by the impure state of the water-supply. "The repulsiveness of the water of London was one of the great hindrances to efforts made to induce men to abstain from intoxicating drinks," and the Chairman of the London School Board speaks both as to the bad quality of the water and the bad storage provided for it in the

dwelling of the poor, who "cannot have pure water to drink, and to my certain knowledge this is the reason why many go to the public-house." This forcibly reminds one of Mr. Pardiggle's visit to the brick-maker in *Bleak House*, "Look at the water, smell it! That's wot we drinks. How do you like it, and what do you think of gin instead?" The Drinking Fountains' Association has in towns obviated much of this and taken from the inebriate this excuse for strong drinks, but the highly unsatisfactory water-supply of some country districts still obtains.

The advocates of temperance, and those who are so hard—possibly not unwisely or unjustly so—on the water companies, would show sincerity in the movement and their appreciation of the necessity of having clean drinking-water, by cleansing their own water-butts, and allowing the waste-pipe to pass out into the air, and not into the soil-pipe; by doing so, a great part of the present drinking-water difficulty would be solved without expense. The New River Company have caused all cistern overflow pipes to be diverted or cut off from immediate connection with the water-closets or drains, thus preventing the poisoning of the water by sewer gases. It is, however, much more easy and much more the fashion for the British householder to grumble at others than to protect himself, and some of the richest clubs, the most scientific societies, and most distinguished and intellectual residents of London, are much more active in abusing the water-supply of the metropolis than in taking care that the excellent water which some of the London Companies supply is not fouled by the neglect of their own cisterns. Would you be surprised to learn that the water-cistern of one of our oldest medical societies was found in an abominably filthy state from the neglect of years; and that at a club and at an hotel the respective waiter and porter, having taken a voyage to that "undiscovered country, from whose bourn no traveller returns," by immersion in the upper water-cistern, it was not until the water was found to have too much body in it that the decomposing corpses were discovered. Common sense would therefore tell us that water-butts and cisterns are not intended by nature to be left in a back yard or on a roof exposed to pollution by every kind of aerial or volatile abomination, not to speak of accidental solid impurities as rats, mice, beetles, cockroaches, and "such small deer"—and that it needs to be covered over, and cleansed once a quarter at least. The civic cistern in the Mansion House was not long since found, after twelve months' stagnation, to contain "an eighth of an inch of fungiscurb at the top and three-eighths at the bottom. As for the water it contained, it was found swarming with nematoid worms." In a house in the Seven Dials, where disease broke out, the water-tank con-

tained "two inches of mud, the decomposing bodies of fourteen rats, a bar of soap, two candles, and many dead beetles."

British troops have sometimes narrow escapes, but it would appear that some of their greatest perils are to be found at home. At an inquest held in the barracks at Plymouth, over the little son of a staff-sergeant of pensioners, who died suddenly under alarming circumstances—the cause proved to be acute dysentery—it was found, on inquiry, that the water-pipes which supplied this important dépôt for soldiers were so foul that they contained worms more than half an inch long. The verdict was that of natural death, with the expressed "strong opinion that someone is to blame"; there was evidently want of intelligent supervision. The School Board, hitherto so backward in the appreciation of sanitary science, might initiate sanitary maxims for their copy-books, such as "Evil communications of waste pipes corrupt good water." "Light is almost life itself."

(To be continued.)

### THE AMERICAN GIRL: WHY SHE IS NOT WHAT SHE MIGHT BE.

By HAMILTON OSGOOD, M.D., Philadelphia.

THE greatest error in the training of the American girl is that she is allowed to become a woman before she knows it. One day she is a child; the next, all unprepared, all ignorant of what it means, she is a woman. Take the average girl of to-day, at the age of nineteen, we will say. This girl, who would blush if obliged to confess ignorance of some fourth-class character of mythology, will calmly admit that she not only knows nothing of the physiology of her functions, but is perfectly indifferent about it. This is a monstrous error—one into which our girls should by no means be allowed to fall. They should be so trained between their twelfth and fourteenth years as not only to be mentally but physically prepared for the metamorphosis which is coming. The American girl should know how to live physiologically and gradually be taught the great and divine meanings of womanhood. She should be impressed with a feeling of reverence for her highest mission in life, in spite of as many women's rights doctrines as might fill the shelves of a Bodleian library. The women of to-day who are striving to put off and fly from the true mission of woman, remind one of the boy who, in order to rid himself of an aching tooth, filled it with gunpowder, put a slow match to it, and then ran. From the age of twelve to the day of her marriage, a girl should be made to feel her responsibility towards her future and those whose lives will one day be in her keeping. If the boy be

father, the girl is in a double sense mother of the man.

The supreme end of nature, Herbert Spencer says, is the welfare of posterity. The first requisite to success in life is to be a good animal. The American girl should know that to have a nation of good mothers is the first requisite of national prosperity. She should be taught her share in this desirable result is to be attained only through conscientious care of her body. She cannot escape from herself. She cannot change her sex. The restlessness so common among our cultivated women is a mistaken and fruitless insubordination; an endeavour to escape the duties which are the glory and should constitute the chief joy of woman.

Need I tell you why a change, a radical change, in the education and training of our girls is necessary? Look at the young women of sixteen to twenty who pass us by in hundreds as we walk the streets. Whether they be rich or poor, what is more rare than a finely-formed girl, with firm step, bright eye, and ruddy cheek? When these are lacking, what is the reason of their absence? "The first observation of a European who comes to America," says Dr. Clarke, in his *Sex in Education*, "is that our women are a feeble race, and, if a physiological observer, he is sure to add that they are responsible for a feeble race succeeding them." "I never saw so many pretty girls together," said Lady Amberley to Dr. Clarke, during a visit to a Boston school, "only," she added, "they all looked sick."

Why should there be such a radical difference in the treatment of boys and girls in their early days? The boy has his warm clothing. His feet and legs are well protected. The girl is but half clad. Half her limbs are exposed to the weather, protected only by stockings none too thick, the necessary undergarments, in the majority of cases, being omitted. This difference fixes a point of departure for the cultivation of the greater sensitiveness of the girl. The ignorant mother but little realises the amount of physical vigour it costs an insufficiently-clad girl to keep warm. And so, while the boy acquires a growing hardihood, an indifference to changes in the weather, and is ready to eat at any hour of the day, the girl becomes delicate, shrinks from cold, her appetite is as sensitive as the thermometer, her cheek loses its rosy hue. Thus her life goes out, steadily increasing its divergence from that of the boy. He becomes square-shouldered, straight and sturdy; she, stooping, round-shouldered, and sensitive. I do not include every girl in this picture. I refer, simply, to the average girl of America, whose training does not develop her original vigour, but transforms a constitution as fine in every sense as the boy's into a tangle of fretted nerves; and this is the average American girl.

But while girls are not given enough exercise as

children they are allowed too much of a kind that is not good for them when they grow older. Take the exceptional case where girls are not allowed to go into fashionable dissipations until after they leave school. These girls, all unused as they are to the strain of social dissipation, plunge into a vortex of engagements—dinners, lunches, parties, balls, and theatres crowding upon each other with hardly a chink for rest. The result is that one or two seasons rob them of their bloom and brightness, and not only this, but they have exhausted the social pleasures by mere gluttony.

One of the great errors of the day is that a girl is expected to complete her education by her eighteenth year—an age at which lads are but little more than half way in theirs. Everything in the shape of culture is crowded into the years during which the girl should be cultivating the physical strength, common sense and practicality which are to be of life-long benefit to her and her descendants, while half the so-called culture with which fashionable education crams the girl is of little use and is quickly forgotten. Less study and more exercise should be the rule. Upon good health and upon the ability to perform their functions easily and naturally depends, in a very large degree, the comfort and happiness of women in later years. Our girls rush through the years of their adolescence utterly regardless of the great need of intervals of rest. And if the careful mother or the watchful physician insist upon periodical repose, they submit to it most ungraciously and with an impatient criticism upon their sex which is pitiful. They try to live as if there were no swing of tide in their organism. They wish to live down and put under reckless foot the necessities of their sex, but it is the old fight with windmills, with this difference: Don Quixote recovered from his hurts; but they, in too many cases, never do. I can mention two women, honoured by our sex as well as by their own, who are largely responsible for the present restlessness of many of their sisters. They are noble, cultured women, of great influence. One of them confessed to a patient of mine that last year nervous exhaustion nearly made her insane, and incidentally remarked that at her last confinement she sent off her proof-sheets and at the same moment called for doctor and nurse. You would be surprised if I told you her name. The other admitted that in spite of all she had said in public, touching the rights of women, her persistent, unrelenting labour had so exhausted her that she had modified her views, but would not confess to any man living, and would not have the public know of it for the world. I could quote other equally significant confessions. These cases are only a fresh suggestion of the battle with the windmills. It would seem as if these women ought to know the exact sense and weight of what they affirm and teach. But they do

realise the actual condition of our young girls; and is this condition entirely due to mistakes in dress and party going? Do we physicians not know there is another side?

### STUTTERING OR STAMMERING: CAUSE AND CURE.

By S. S. CLARKE.

THERE has appeared in *The Voice* an occasional article on this subject which was only some one's theory, which would fail in practice, and which any stammerer could see was nonsense; but there have been also some able contributors who have found the cause, and provided a remedy for this defect. I have long since learned that "theories" have very little value, and that what might seem like a simple and sure cause and cure of stuttering would utterly fail when put into practice. I am acquainted with a stammering specialist who gave the advice to a gentleman, whose son stuttered, that, when rightly understood, and a system (like his own) properly applied, stuttering was a very "easy thing to cure." On another occasion he said it was as "easy as eating bread and milk," yet he has failed in a number of cases; in fact, in nearly all. I have found that "understanding," and the "theory" in regard to the cure, are of no account whatever, but injurious, if the proper physical and mental treatment is not resorted to. No progress is made until the patient has decided upon some course of treatment, which must be persisted in as though his life depended on the good result. He must learn self-dependence. There are some stutterers who are looking for some "wonderful process," or something which shall take them out of stuttering and land them in free speech. You must learn to cure yourself. The *will* must be aroused and concentrated on the thought of getting free speech. Not in such a way as to irritate and excite the already too sensitive mental disorder, but by the gentlest means, making the removal of the trouble the great aim and end in view.

Before going further I will say right here, that I know whereof I speak, and it is what I have learned from experience I now give to you. I was a stutterer till twenty-one years of age. About that time two gentlemen gave me a short drill together with kind advice and assistance, which enabled me to nearly throw off my trouble, so much so that I could read in public and talk well generally; but had I stopped there (where many do and call themselves cured), I would, no doubt, have relapsed. I commenced to apply what I had learned, and together with my experience and close observation, I have progressed. There was failure many times,

and corresponding discouragement. There were times when, rather than stutter or stammer on one syllable, I would prefer silence for hours. Every failure was a step into the background of stuttering, and every success a step upward and onward to free speech. You may ask for the treatment. Without going into the details I will say, by application in a simple vocal drill, proper intonation, avoiding the irregular and jerky style so common to stutters, analyzing difficult words and sentences, and so arriving at the easiest way to utter them, a guarded and deliberate enunciation, calming nervous fear or mental emotion, "keeping cool," relaxation, hygiene, &c.

Were you to ask me the cause of stuttering, I would say: stoppage in, or irregular emission of, nerve-force, which calls forth muscular movement. Some one has said: "Stuttering is like a balky horse; stammering is like a lame one." It is not caused by, but the cause of, nervousness. To effect a cure the organs must be brought into their normal and harmonious action; the mental condition changed by proper treatment and drill of the vocal respiratory organs, &c. The will is a powerful regulator of the nervous system, and assists in forcing wrongly acting organs into their proper course. There are many things that take place in stuttering, such as reversed action of the diaphragm, cramping of the ribs, throat or jaws, throwing out all the breath, &c., &c., which are not causes (as some suppose), but the results of stammering, which become more numerous and complicated as the case increases in severity. In a light case the trouble will be noticed in the spasmodic action of the glottis, and a cure laid out for the proper use of this organ. While the novelty of the treatment lasts and takes the mind from the stuttering, the "cure" remains. The same result can be reached by removal of mental emotion, which, in fact, it does to a large extent.

Pleasant and home-like surroundings are very essential to the cure of stuttering. The patient must not become discouraged nor despondent. He should avoid everything which would make him so, and seek to be hopeful and confident; uproot all bad habits, and strive for energy and healthfulness. Whoever can afford an enervated body and an abject character, the stammerer cannot; with him it is a question of life and death. He must make a man of himself, or be liable to his tormentor to the last. This complaint is more aggravating than other "ills that flesh is heir to," because it is so closely connected with the mind, therefore nearly baffles all attempts at self-cure. The will is in chains, as it were, and the man a captive in the hands of this (to him) giant. So the suffering becomes more intense, because the will is denied expression. You may think it exaggeration when I say that to be dumb is

more endurable, but it is the truth. I knew a stutterer in school days who would have thanked God if he could have sunk through the platform, after a mortifying failure in reciting. Repeated failure only tends to confirm the habit, and each year adds one more chain. The motor influences of the brain and spinal chord are in a state of depression; the muscles of the body which they actuate become relaxed, and consequently unequal to natural action, for where the will endeavours to actuate muscles thus situated, their first tendency is to a tremulous, uncertain action; the will, however, continues to press upon these muscles, thus already rendered irritable and hesitating, which results in a spasmodic instead of a natural action.

There are two common systems of treatment for stuttering; one requires the pupil to fix his attention on each word he utters, and do it neatly, promptly, and precisely (as though taking elocution lessons); tells him to send out *sound* as the most essential thing, speak and read mechanically. The stutterer commences and finishes with about the same treatment, and does not learn to talk naturally; so, being left to grope his way in the dark, the chances are in nine cases out of ten he relapses. The other system, and the one nearest the true (in my way of thinking), is the one which does not require the stutterer to fix his attention on each sound or word, and so only increase his nervous fear, but advises him to withdraw his mind from the words, and place it on the thought and manner of expressing it; and, instead of requiring him to exercise his "sound-producing organs," he is told to get the proper control of them by the exercise of the articulating muscles, which must be acted upon and act when the obstacles in their way have been removed, and by right treatment. The former system or method tells you you must *not* stammer (or, perhaps, allow spasmodic action of the lips) when you send out voice; the latter makes it impossible for you to do so. The former is like telling a lame man not to limp; the latter removing the cause of the trouble.

I was much pleased with two articles which appeared in *The Voice*, in 1879, by H. B. Ward, who had the correct idea in regard to the treatment of stuttering, the correctness of which was proved in his own and many other cases. In those articles he showed that the fault was not so much of the "sound-producing" as the articulating organs in *stuttering*; not in *vocalization*, but in *articulation*. Let the pupil attempt to express a thought with his mind directed to the production of sound and the formation of the words, and he will fail; but let him forget his stammering (by being absorbed in the subject), and he will not stammer. If told to avoid the difficulty by dilating and sending out sound, he is on the lookout for "stickers," and will stammer when he otherwise would not. Even a non-stammerer often,

when embarrassed and self-conscious, will stammer. The pupil should be treated in such a way as would divert his mind from it, and the special defects will wear away as the cure proceeds.

The foregoing are some of my observations from an experience of about twenty years of stuttering. Whether my principles are correct or not I will leave it for others to judge; but, proceeding on this plan, I have accomplished the object, and am now able to speak well. A cure of stammering or stuttering means application—persistent, patient practice. It requires sacrifice and industry. Can it be cured in two weeks? No! Two months? No! Two years? Yes; and if you only knew how sweet is the victory, you would not hesitate one moment to engage in the conflict. A short time will accomplish much, but no one can hope for a perfect and permanent cure without long effort. Nothing so completely unmans you as stammering, and speech is indispensable to your happiness. Therefore go on! Don't give up though failure comes often. There will come a time when there will not be a trace of the old habit; it will be left behind like an ugly dream when one wakes in the morning.—*The Voice*.

#### MENTONE AS A HEALTH RESORT.

THE visit of Her Majesty the Queen to the Riviera will, it is hoped, be the means of restoring her to the health and strength she so much needs for the proper fulfilment of her by no means trivial duties. The labours and anxieties of a British Sovereign are no sinecure, even if performed in the most perfunctory manner; but to be undertaken after the manner of our present Sovereign, is a serious tax upon the vital energies. It is the earnest wish of her people that the Queen will, during her stay on the shores of the Mediterranean, give herself the rest she so much requires, and refrain from all the cares of state, so that she may receive the full benefit of the change.

Of all the delightful retreats on that beautiful shore, which stretches from the north-east corner of Spain to the north-west corner of Italy's sea-board, not one can equal Mentone (Fr. Menton) in beauty of scenery, mildness of climate, and general salubrity. It is not a town of any size, having only about five thousand inhabitants, neither is it a town of any note, except as a health station; but it is just for these very reasons that it has been chosen by our Sovereign for her resting-place, and, we repeat, that a more desirable nook could hardly have been chosen. The little town lies on the main road from Nice to Genoa, about nineteen miles from the former place, and is approached by a rather expensive line of rail, as well as by the good road which Napoleon made at the commencement of this century for

military purposes. Travellers going to Mentone from this country first make for Paris by one of the many routes now open, after which they travel by Dijon, Marseilles, and Toulon to Nice. From this point they can proceed to Mentone either by rail, which allows glimpses of exquisite scenery, or by road, which is one of the most beautiful and most enjoyable routes in Europe. After leaving Nice, the road gradually ascends a high mountain, the Turbia, about 8,000 feet high, from the top of which can be seen the charming city of Nice nestling at its western base, and a magnificent panorama of the bay. A rest may be made here at the little village of Turbia, prior to commencing the descent of the other side of the mountain, through the picturesque little village of Roccabruna, to Mentone. The panorama to be seen on this side of the mountain is even more glorious than the one on the Nice side. Immediately below lies Monaco, at the head of a promontory jutting into the sea, beyond which is the magnificent amphitheatre of Mentone, with the little town lying at the foot, and a beautiful bay stretching away to the south. The hills forming the amphitheatre at the back of the town are clothed with olive groves below, and handsome firs higher up, and give a complete protection from the north, north-east, and north-west winds. So wonderfully protected is Mentone from these winds, that when they are blowing furiously in the unprotected districts round about, there is always a complete calm in the bay of Mentone, while the sea is often foaming and raging but a few miles from the shore. The only winds to which this little district is exposed are the south, south-east (the scirocco), and south-west winds, which are warm and consequently do not trouble invalids. The warmth of the winter atmosphere at Mentone is about equal to that of Palermo, five degrees farther south, as is obviously shown by the groves of lemon and orange trees which grow in the open air, flowering all the year round, and ripening their fruit to perfection every year, to be gathered at four different times. Dr. Henry Bennet, the senior physician at Mentone, and author of that delightful book, entitled *Winter and Spring on the Shores of the Mediterranean* (Churchill), informs us that he has sometimes noticed a great difference in the degree and severity of the cold from year to year. In the more severe winters, with a northerly wind, he has known the thermometer to descend below zero on several consecutive nights, near the sea-shore. Slight films of ice have also occasionally formed at points which are exposed to the down-draughts from the mountains; and snow has been known to fall on the shore-level, melting as it falls. In January 1864, Dr. Bennet informs us, there was a frost of unusual intensity throughout the south of Europe, especially in Italy and Spain, and at Mentone it

froze on the sea-level on several consecutive nights, snow falling on the shore-level. This severe weather killed a quantity of lemon-trees and destroyed much fruit; and it is expected that there will be a recurrence of the disaster very soon, as an exceptionally severe winter usually happens about once every twenty or thirty years. Besides the beautiful groves of lemon and orange trees, the hills are covered with olive, apple, pear, cherry, and fig trees, as also vines, from which are procured fine-flavoured grapes. Sweet-smelling wild violets, geraniums, and other flowers, may be gathered in the open air in December. The average rainfall at Mentone is rather higher than at Nice, on account of the hills which surround the former, but the difference is not much. At Nice the average rainfall is twenty-five inches, and the number of rainy days sixty. According to M. de Brea, the average number of days or nights during which it rains little or much at Mentone, is eighty, or twenty more than at Nice. At Greenwich the average rainfall is only twenty-five inches, and yet the number of rainy days is one hundred and fifty-five. At Torquay the average number of rainy days is also one hundred and fifty-five. It will be seen, then, that the climate of Mentone is one admirably suitable for people who require mild winter climates, and the fact of our Queen having chosen that spot for her holiday will doubtless attract thither many more people to whom these few remarks may be useful.

#### DR. CARPENTER ON VACCINATION.

At the Monthly Conference of the London Society on the Abolition of Compulsory Vaccination, an address was given by Dr. W. B. Carpenter, C.B., in which he pointed out the inadequacy of the objection that a system of compulsory vaccination outraged the rights of individuals; contending that in health, as in education, it was the paramount duty of the State to secure, as far as possible, the public advantage. The State, in his opinion, was morally bound to intervene in such a matter between the parent and the child, for the good both of the child and of society at large, every member of which was liable to be exposed to infection. He proposed to speak with special reference to the outbreak of small-pox in 1880, which, he understood, was specifically mentioned in the resolution that was to be moved in the House of Commons by Mr. P. A. Taylor. That outbreak, according to his view of the case, afforded grounds, not for the repeal of the Act, but rather for making its operation more complete and stringent. It was necessary first to consider the history of small-pox, with regard to which very important statistics existed in the bills of mortality for the last 200 years. In the case of other exanthemata—

scarlatina, for instance—doubts might have been cast on the value of the earlier figures; but small-pox had always been clearly recognised and distinguished from other diseases, and no such doubts could, therefore, be entertained. Now, from 1660 to 1678, the general mortality of the kingdom was 80,000 in every million of living persons, and the small-pox mortality was 4,110; in 1728-57, the general mortality was 52,000 per million, and the small-pox mortality 4,260; in 1771-80, the general mortality was 50,000, and the small-pox mortality 5,020—a slight increase, which was probably due, as Dr. Heberden said long ago, to inoculation. However, the average small-pox mortality in the period from 1660 to 1800, irrespective of inoculation, might be taken as about 4,000 per million. It was noticeable that, at that time, the disease periodically appeared in its worst form, and was the terror of all classes. Thus Louis XV. died deserted by all except Madame Du Barry, and the priests who chanted mass by the side of his coffin in the Chapelle Ardente were said to have been "condemned" to do so. Again, in 1750, Horace Walpole wrote, "Lord Dalkeith is dead of the small-pox in three days," his brother having previously died in two days. These, of course, were instances in which the disease appeared in its greatest intensity and attacked the rich, who in these days would ordinarily have little to fear from it. For the decade 1801-10, the general mortality was 29,000 per million, and the small-pox mortality 2,040. In 1831-35, the general mortality, owing to the epidemics of cholera and influenza, was 32,000, and the small-pox mortality had fallen to 830. At that time, he had himself seen as many as 100 cases of blindness from small-pox in unvaccinated persons, and there was evidence that, in the last century, two-thirds of the patients at the blind asylums were blind from the same cause, while the proportion now was only 5 per cent. In 1840, the Legislature provided the means of vaccination, and the result was that the mortality fell to 400 per million. Then came compulsory vaccination in 1853, and the small-pox mortality in the decade 1851-60 was only 278 per million. In 1861-70, the number was 276. He now came to the years 1871-80, which period was unquestionably exceptional. The mortality in these years among unvaccinated persons was so extraordinarily great, and the disease itself was so often violent, as to suggest the notion that it might be indeed the black death of the middle ages. Yet, as far as he had been able to ascertain, no person who bore good evidences of vaccination had died of that peculiarly malignant form of small-pox (known in medicine as the hæmorrhagic or petechial), the frequency of which among the unvaccinated in the present epidemic raised the average death-rate of that whole class to 44·6 per cent., whilst the average death-rate of the



vaccinated had been only 7·8 per cent., ranging from 1·8 to 15·8, according to the character of the arm-marks. In 1871, the disease was severe everywhere in Great Britain, but especially in Scotland, where compulsory vaccination had not been long adopted. Since that time, however, vaccination had been enforced more effectually in Scotland than in England the result being that, for the last four years, there has not been twelve deaths a year in that country from small-pox. In London, on the other hand, thanks to the efforts of the Society, there was an unvaccinated residuum which kept the disease alive. The epidemic had come to us from France, and had probably arisen there from the unsanitary condition of the French soldiers during the late war. Having regard to all the circumstances of the epidemic, and from a study of epidemics in general, he had no hesitation in saying that the period 1871-80 was altogether exceptional, and that the rate of small-pox mortality during that decade afforded no basis for an argument against vaccination. He need only make one more observation. His opponents would doubtless urge that such places as Dewsbury, Leicester, and Keighley, where the anti-vaccinationists were strong, had had a comparative immunity from small-pox. But the truth was that the disease had already died out in those towns, and that the mere disuse or neglect of vaccination did not reproduce it. As an illustration of the fact that no sanitation would suffice to exclude small-pox, the case of San Francisco might be cited. In the Chinese quarter of that city, a smouldering fire of small-pox continued to survive, after the subsidence of the general epidemic of 1872 and following years. Five years ago, the Board of Education required that all the children then in the schools should be vaccinated, and that none should be thereafter admitted without a vaccination certificate. Under this order, 80,000 children were vaccinated within the five years 1876-81. In the autumn of 1880, an outbreak of small-pox took place among the most respectable families in the town, causing quite a panic among the citizens—147 cases occurring in November, and 140 in December, before it could be controlled by the vaccination of the unvaccinated adults, and by the quarantining of those smitten with the disease; and this in spite of the fact that, as the very low annual death-rate showed, the sanitation of the place was singularly good. Of the children, however, all of whom had been vaccinated—mostly with heifer-lymph—only ten or twelve took the disease.

#### THE CREMATION QUESTION.

PROMINENCE has been given to the cremation question by a recent occurrence which places it in a new and somewhat curious light. The executors of a gentleman named Crookenden were sued for pay-

ment of the sum of £321 by a lady, who claimed this amount as expenses incurred in carrying out the wish of the deceased, that his remains should be disposed of by cremation. The case came before Mr. Justice Kay, in the Chancery Division of the High Court of Justice, and was decided in favour of the defendants, costs also being given against the plaintiff, Miss Williams. It transpired during the hearing of the suit that a promise had been given by Miss Williams during the life of Mr. Crookenden, to carry out his wish to be burnt after death, and specific directions were given in his will for the payment of such expenses as might be incurred by Miss Williams in fulfilling the request conveyed to her in a private letter mentioned in the codicil. The testator, however, was buried in Brompton Cemetery, and some months afterwards Miss Williams applied to the Home Secretary for permission to remove the body. This was, after a first refusal, accorded, on the understanding that such removal was to be allowed for reburial of the corpse in a Welsh churchyard, and on the express condition that it should not be cremated. Having thus obtained her friend's remains, Miss Williams forthwith carried them to Italy, and there had them burnt.

The legal aspects of the case were clear, and in the present state of English law could not be gainsaid. A testator has no power of disposing of his own body after death, his executors being its sole guardians, with legal rights to resist every and any claim to its possession from other quarters. That this should be so is undoubtedly hard upon individuals, who may justly complain of an inability to decide in what manner their remains shall be dealt with; and in this particular instance our sympathies must certainly be with Miss Williams in her desire to carry out the emphatically expressed intentions of her deceased friend. Notwithstanding this, however, the fact that possession of the body was obtained by misrepresentations very properly entails such penalties as the adverse verdict ensures, while at the same time the impossibility that at present exists of any person willing that his death shall not be a cause of endangering public health opens up the gravest social considerations. There are very many people now alive who regard with feelings of the utmost abhorrence their future confinement to an earthen grave. Indeed, within the last few years there has sprung up in this country a strong and ever-increasing disgust against the harmful and unsanitary system of burial that obtains amongst us. Each year the growth of cities and towns is proving with the utmost certainty how, by-and-by, spots that are seats of constant noxious emanations proceeding from compact masses of decomposing bodies, will be covered with the dwelling-places of a coming generation; and while every year the overgrown graveyards of suburban places are

crowded yet more densely with the remnants of humanity, to an equal extent is the health of the whole surrounding neighbourhood being imperilled. For, as surely as the demand for more and more houses increases with the growth of population, so will the fringe of dwellings around large cemeteries creep closer and closer on to the boundaries of the dead. It needs but a glance at such neighbourhoods as Norwood, Honor Oak, or Nunhead, and comparison of the aspects presented by these places now with that they showed a dozen or twenty years ago, to see the deadly nature of the danger to be dreaded from this building around and about graveyards. Every house that is erected robs the neighbourhood of a portion of the open space which, at their creation, surrounded these burial grounds, and adds, moreover, another family to those already brought into too close relation with the dead. A decade or two ago this gave less cause for trouble than it does now, and less attention, too, was then paid, generally, to the preservation of health by attention to rules of hygiene. But now, a knowledge of the laws of life is not confined to the few who make such knowledge the basis of professional training; it is, rather, shared by every educated person, and with it has arisen a wholesome and laudable desire to conform to Nature's inviolable demands. Hence can be traced the widespread disinclination to burial after death on the part of intelligent thinkers, and the rapid growth of public opinion in favour of rational disposal of corpses by cremation. The legalisation of the practice must sooner or later become a pressing necessity, and the sooner it is brought about the earlier will the nation be freed from a danger that it is becoming painfully alive to.

The chief objection hitherto raised against the practice, apart from those of purely sentimental and untenable nature, is that it will tend, if generally adopted, to facilitate the concealment of crimes. This, however, is at best but a short-sighted view of the matter, for under simple and easily carried out regulations, it might easily be made the strongest protection against crime of the kind indulged in by poisoners, which is the principal danger complained of. There is no reason why, prior to cremation, a post-mortem examination of every body should not be made; and even though not followed in all cases, yet wherever occasion seemed to demand it, analysis of the contents of the stomach could be added, to make assurance doubly sure. The gain to science from such a proceeding cannot be too highly estimated. Post-mortem records teach many most important lessons; and when these are conducted on every person who dies, and the information thus obtained is scheduled by properly qualified officials, it is impossible to foresee the results to which it might lead. Attempts have hitherto been made in vain to legalise cremation in this country. As the

law regarding burial now stands, however, there is little to recommend it to thinking men. It practically hinders all attempts by individuals to assist the progress of sanitary reform; it is unduly restrictive of the liberty of the subject in a matter that most gravely concerns himself; and, in our opinion, it imposes barriers of the most improper kind on a just and reasonable endeavour to promote the health of the people. We must admit, of course, that Miss Williams acted very wrongly in transgressing the law as she did by causing Mr. Crookenden's body to be cremated, in the face of the Home Secretary's refusal; but none the less it cannot fail to be a matter of regret that, in giving his refusal to a scientific disposal of a dead body, the Home Secretary was exercising a right that the law gives him a power to exert. In spite of memorials bearing numerous signatures of a high scientific and medical authorities, praying for a removal of the legal disabilities in respect to cremation, the introduction of this much-needed reform has been obstinately opposed; but it must ere long become a question of such universal interest that further prohibition will be impossible; and that time cannot too speedily arrive.—*Med. Press Circ.*

**CURE FOR LONDON FOGS.**—Dr. Hinckes Bird, writing to the *Wandsworth and Battersea Times*, calls attention to the fact that the darkness caused by a London fog may be due to unconsumed carbon, and not to fog proper, or to a mixture of both. After pointing out the utter uselessness of the present state of sanitation he concludes as follows:—"I venture to describe the plan now used in the same old-fashioned grate in which all these above-mentioned experiments have been tried. The fire, of the best bituminous coal, is to be well lighted in the usual way, with a small dry country faggot, in the vernacular "bobbin," or amply resinized wheel; two large fire-clay balls being placed on the bottom of the grate, so as to keep the material raised and to allow all possible access of air; the top should be touched *as little as possible*, in fact, the poker should be hidden, else some conceited intruder, who fancies he knows more about fires than anybody else, may violently stir it up and throw on half a scuttleful of coals—the usual plan; feed the fire through the bars with the shovel; there is one to be seen at South Kensington—patented, of course!—the larger lumps being judiciously placed by small hand-tongs now being made for this purpose. A block of ship-timber should be placed on the top as occasion requires. A cheerful Turner-esque tinted fire, with a little or no smoke is the result."

**THE BLIND.**—The last report of the British and Foreign Blind Association for Promoting the Educa-

tion and Employment of the Blind shows that this useful Society, founded in 1868, is successfully pursuing its beneficent career. Many new books, biblical, religious, and secular, have been printed in embossed type, and in addition an embossed map of Belgium and Holland has been published, chiefly for the use of the blind in the Low Countries. It appears that the Braille alphabet is now coming into almost universal use. It is formed of the combinations of one, some, or all, of six dots arranged in two parallel upright rows of three, and this allows of all the letters of the alphabet, in addition to many abbreviations and signs used in literature, being provided for. Among the professions really open to the blind is that of music, and the Royal Normal College continues to train musical pupils with great success. It is stated, indeed, that many of the pupils of the college for the blind sons of gentlemen, at Worcester, have obtained honours at the university. It is well known, of course, that the eminent professor of music at Cambridge (Mr. Macfarren) is himself blind, and the exalted position held by another blind professor of the University of Cambridge (the Right Honourable the Postmaster-General) seems to show that in purely intellectual pursuits the blind are capable of attaining the highest positions. Among trades practised by the blind that of piano-tuning is found to be the most remunerative. Basket-caning, mattress-making, rope-twisting, and making ships' "fenders" are successfully practised. Retail trading is carried on to a large extent by blind persons who are able to command some slight assistance from persons who can see. The sale of books, &c. by the Association continues to increase, which is a most important fact. The list of works which are published and sold by the Association comprises a great variety. We find among them many of the elementary school books, some of the best works of the most eminent musical composers, and also several of the Greek and Latin writers, such as Homer, Xenophon, the Greek dramatists, Horace, Cæsar, and Virgil. An embossed magazine, called *Progress*, has lately been established, and this, it is hoped, will command a remunerative sale and place the blind *au courant* with the topics of the day. The Association, piloted by its indefatigable honorary secretary, Dr. Armitage, is doing good work, and we cordially recommend it to the consideration of our readers.—*Lancet*.

**PLUMBING IN DWELLINGS.**—If there is one thing more than another which affects the health of this great city, it is the manner in which the plumbing is done in its private residences. Instead of placing its buildings in a proper sanitary condition the work in many instances is bunglingly done, and they are really death-traps. When will our legislators—it matters not to us whether they be State or muni-

cipal—take this subject in hand, and act upon it in such a manner as will help the physician in his work of healing the sick?

**JUVENILE SMOKING.**—It is said that there is a police regulation in Germany that no persons shall smoke in the streets or public places till they have attained the age of sixteen.

**HOW INFECTIOUS DISEASE IS SPREAD.**—Mr. Atkinson, in his last annual report on the health of the Craven combined district, mentions some curious instances of the ignorance existing among the population under his charge. In one case, when pointing out the necessity for disinfection, he was told by an old woman that, "Ye mak' a deal o' fuss i' sich like cases, but it's na' good; for if they 'll have it they 'll have it, and if they 'll dee, they 'll dee." In another, when examining some premises to find a cause for typhoid fever, he was told that he could look if he chose, but it was of no use, for "t' feaver's i' t' family, 'is father 'ed it, and 'is grandfather 'ed it, and na' t' lad's gotten it." Mr. Atkinson adds that, in this last case, the cause was not far distant, since an open rubble sewer was constantly emitting its odours at the back of the premises, and a foul gutter was just below the windows.—Another typical instance of the carelessness of parents in cases of infectious disease recently came before the Exeter School Board. At the last meeting of that body, it was stated that, while one girl was lying at home ill with fever, five other members of the family were being sent to one of the Board schools without the slightest intimation being given to the authorities. The existence of fever only came to the knowledge of the Board on their summoning the parent for the non-attendance of the sufferer. It is not encouraging to reflect that, after so much time, money, and energy have been expended in erecting and maintaining a public health service, such instances of crass ignorance as these should have still to be reported.—*Brit. Med. Journ.*

**BURIALS IN WESTMINSTER ABBEY.**—Attention has been called to the want of disinfectants in the burials which take place at the Abbey. From a letter published in one of our contemporaries it would appear that, except a small quantity of quicklime put into the coffin, nothing is done to prevent injury to health in case of a leaden coffin bursting, or having a defect in it when it was made. The coffin cannot be tested, after the body has been put in it, to try if it is airtight, and, therefore, some means should be used to prevent the risk of injury to health. In many graveyards which are partially closed the regulations in force require that the coffins should be surrounded with cement. If this were done at the Abbey, a sufficient layer of charcoal having been previously

put around the coffin, and protected from the cement, so as not to be wetted, all risk of injury would be avoided. Cannot the Dean and Chapter be induced to require that all future burials shall be so conducted as to prevent even a suspicion of risk to the public health, either by the adoption of this suggestion, or in some other manner that would be satisfactory to the Medical Officer of Health and to a chemical teacher at some adjoining medical school?—*San. Rec.*

**ICE-WATER.**—The prevalent dyspepsia from which Americans suffer so much, and which is so apt to undermine the strength of the men and the bloom of the women of America, is in a large measure due, we believe, to the universal habit of drinking large quantities of ice-water. This essentially transatlantic habit has long been a speciality of which our American friends and travellers seem to be proud, complaining that they find the purest water in England undrinkable, from the difficulty of getting water to drink with lumps of ice floating about in it. Nothing can be more destructive to the utility of the process of digestion than this habit. There is, however, another danger inherent in this mode of introducing ice, to which attention has more than once been called by sanitary authorities in this country, and which, we note with interest, is now also attracting notice in America. It hardly needed the scientific experiments of Professor Pumpelly—an authority whose name is singularly appropriate to the investigation—to prove again that the freezing of organic impurities and diseased germs does not deprive them of vitality, but only suspends their activity; and that frozen water is apt to entangle a large proportion of the floating impurities, which may be suspended in it; and that it is probably quite as easy to contract typhoid fever from impure ice, as from impure water. The habit of drinking ice-water is altogether a bad one, and may readily become a source of serious or fatal illness if the ice be impure.—*British Medical Journal.*

## CORRESPONDENCE.

To the Editor of THE FAMILY DOCTOR.

SIR,—Will you allow me space to call attention to the manner in which death-certificates are frequently given in London. Unqualified and unregistered persons attend the sick, who are in ignorance of the position of their "doctor," and feel confidence in him; and when the sufferer dies, a certificate is forthcoming signed by some registered practitioner who has never seen the patient, but who is a kind of partner (*sub rosa*) of the unqualified man. This is commonly done, and I wish to warn the public.

Yours truly,  
CONSTANT READER.

## SUPPERS.

To the Editor of THE FAMILY DOCTOR.

SIR,—The annotation on suppers which you have reprinted from the *Lancet*, is, I think, calculated to mislead your readers. We are all aware that heavy suppers are objectionable; I have, however, yet to learn that a light meal taken shortly before retiring to rest is otherwise than conducive to repose. There is doubtless some truth in the statement that "farinaceous foods generally are to be avoided as being indigestible," but such language cannot apply to the comparatively new dietetic agent, Lloyd's Universal Food, which, owing to its being malted on Liebig's well-known principles, may be said to be self-digestive, and as such recommended as an excellent supper dish. The same may, perhaps, be said of Savory and Moore's Food, though Lloyd's is probably the better of the two, from the fact of its being more palatable and containing more nitrogenous matter.

I am, Sir,  
Your obedient Servant,  
M.D.

M. Y.—The law respecting sale of liquors in Prince Edward's Island is as you state, but would not do here at all. No sale is allowed on Sundays. In the States, a woman having a drunken husband can forbid a publican to sell him liquor, under a penalty of "consequential damages." This law only applies to some of the States of the Union.

William Thompson.—Yes, a very refreshing drink may be made from milk, as follows: Place ordinary milk in a small quantity in a large open stone-ware pan, first mixed with a small quantity of powdered lump sugar, when fermentation will rapidly take place, and the milk will become sour. In twenty-four hours the fermented milk must be put into champagne bottles and well corked down, the cork being fixed with string or wire. On the following day it may be drawn off for use, when it will effervesce freely like champagne. This beverage is very useful in cases of indigestion or irritable stomach.

T. W. P.—Your doctor may sue you for the amount. Our advice to you is to pay it, as it is clearly your duty to do so.

Reader.—Dr. Morell Mackenzie, Mr. Lennox Browne, or Dr. Prosser James.

X.—If you are within easy distance of Manchester, by all means apply at the Ear Institution, where you will get the information you require.

A. B.—Try whole meal bread. You have hitherto thrown away the best part.

Lex.—No card enclosed.

W.—Thanks. A private note will be sent to you.

The Rev. A. D'Orsey, and Drs. Bell, Alabone, De G. Griffiths, T. Chambers, Dornett-Stone, Hinckes Bird, Crookshank, and Buxton are thanked for their communications.

The following books, pamphlets, &c. have been received:—*Baths and Wells of Europe*, by John Macpherson, M.D. (Macmillan & Co.); *The Mother's Guide in the Management and Feeding of Infants*, by John M. Keating, M.D. (Henry Kimpton); *Standard Electrolysis*, by David Charles Bell and Alexander Melville Bell, F.R.S. (Hodder & Stoughton); *The Spas of Europe*, by Julius Althaus, M.D. (Trübner & Co.); *Wandsworth and Battersea District Times*; *Leeds Express*; *The Voice*; *La Jeune Mère*.

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## THE FAMILY DOCTOR.

## SIMPLICITY, COMMON-SENSE, AND INTELLIGENT SUPERVISION IN SANITARY APPLIANCES.

By P. HINCKES BIRD, F.R.C.S., F.L.S., S.Sc.C. Cantab.; Norfolk Square, W.

(Continued from page 37.)

HEROIC schemes are afloat to bring the waters of lakes to large towns, robbing intervening districts of their natural supply. These schemes may commend themselves to eminent engineers from their point of view; but the ratepayer, already overburdened with school rates and the incidence of the Artizans' Dwelling Act, should oppose the prevailing unqualified denunciation of river water—which is, after all, on an equality with most spring or deep well water—and hesitate—for the change from river water to well or spring, does not necessarily mean change from impurity to purity, but may mean from better to worse, as “Thames water after being softened displays the beautiful blue-green tint of pure water, and resembles the Rhone as it emerges from the Lake of Geneva,”—(*vide* the Report of the Royal Commission). The question of water-supply in London is simply one of filtration, and there is no absolute reason why, with efficient filtration, the Thames should not be regarded as a fair source of water-supply for the whole metropolis; while Dr. Mills reports that the Loch Katrine water delivered to Glasgow contained “much suspended matter together with a decided amount of iron.”—(*British Medical Journal*, August 28rd, 1879); and lately it has frequently been “pale brown in colour, and disturbed by recent storms,” “entomostracous insects were visible to the eye, and the microscope showed decomposing vegetable matter,” and so on; the description reading very like a graphic account of the worst London water before it is filtered. This may well reconcile the metropolis to its drawbacks,

and satisfy objectors that it may, after all, be better to pay a few thousands for extended, improved, and properly tended filtering beds, than a few millions to “tap” Windermere or Bala only for the purpose of introducing some lively specimens of the entomostracous order to a habitat in London cisterns.

Although some years since with astonishment we heard a late master in surgery avow his scepticism on the necessity of pure water, one is hardly prepared for, still less to accept, a brilliant discovery, the result of the later researches of Dr. Emmerich of Munich, who has proved—to his own satisfaction—that the supposed discoveries of science as to the evil effects of polluted water are altogether devoid of foundation, and he now boldly declares that “the use of the most foul and putrid drinking-water produces no injurious result on the system in health; even existing affections of the intestinal canal are not in the least aggravated by it.” *Fiat experimentum in corpore vili*,”—so the doctor, to prove his hypothesis, took water from a ditch so foul, that the description is only suited for a medical work;—having drunk it for three days, he was cured of a sharp attack of a stomach complaint. He next gave some of this filthy water to a patient suffering from dyspepsia, and the result was eminently satisfactory. Nature, in fact, according to this German *savant*, intended man to be filthy, and to drink filthy water, and it is flying in the face of Providence to seek unpolluted streams;—notwithstanding, amongst our deeply ingrained prejudices, our foolish weakness for pure water will be one of the most difficult to remove. Hygieia—Goddess of Health—what eccentricities and absurdities are daily perpetrated in thy name!

The fact is, the public is rather indifferent about its water-supply, mainly because that portion of it most capable of vigorous agitation does not habitually use the fluid as a beverage—at least pure and simple; the head of the household being probably unacquainted with it except in a more or less sophisticated form; and although from twenty to thirty gallons may be the daily required quantity per head, the absolute quantity required for drinking is comparatively small, a second or third-rate water being sufficient for culinary, washing, and flushing purposes.

Common sense would tell us that, with Thames water so softened and prepared by the water companies,—considering the small quantity required,—a sideboard filter of silicated carbon, of spongy iron, with carbon block, or with “the newly-devised carbonized material,” which has been called carferal, and which combines carbon, iron, and silicate of alumina, or the lately suggested indestructible filtering material, gun-cutton,—would give a result far better than the vaunted Loch Katrine water “delivered with its ‘water-lice’ generated in the

uncovered reservoir in the lake, or than water derived from the surface washings of granite, in times of storm, containing infusions of peat, which do not agree with the dyspeptic." But common sense would also tell us that filters especially require intelligent supervision, that the material used should be daily oxygenated; day after day impurities of one sort or another collect in the filtering substance, "and in the course of a short time the suspended matter in the filter is in a state of putrescence." The managing head of the family must see that the household filter is constantly subjected to a thorough cleansing and oxygenization, It will not suffice to devolve the performance of this duty on the discretion of servants,—otherwise the last state of that water is worse than the first.

To know  
That which before us lies in daily life,  
Is the prime wisdom.—*Milton.*

In cases of epidemics of cholera and typhoid fever, common sense would suggest that the water should be boiled as well as filtered,—complicated chemical treatment being out of the question,—the want of flavour and rapidness being remedied by a squeeze of lemon, said to be so conducive to longevity. The germs may exist in water without being detected, both chemical and microscopical examination failing to reveal their existence; whether organisms are causes of disease or simply inseparable accidents of it, science cannot yet pronounce,—to supply the missing link "conclusively" would "be inexpedient even if it were possible."

*Excreta treatment.*—Dr. Andrew Fergus, of Glasgow, in his address on State Medicine, before *la crème de la crème* of Sanitarians, at the meeting of the British Medical Association at Cork,—referred to the results of repeating the well known experiments of Graham, on the diffusion of gases through water, whether light or heavy; and meeting the objection that the result would be different if the trap were ventilated, the experiments were repeated with the trap somewhat modified by the introduction of a "ventilating pipe;" "the results were the same, except that the reaction was a little longer in showing itself." It is, however, very questionable indeed if the pipe really acted as a ventilator at all, as it was unprovided with any exhaust cowl above and inlet for fresh air below, while common sense would tell us that the smallest dribble of water through the trap would prevent the diffusion of gases and immaterially affect, as to waste, the revenue of the water companies,—but this would require some amount of intelligent supervision,—and the well-known destructive effect of gases on lead, also referred to, would be obviated by doing away with the use of lead altogether, and adopting the simplest form of water-closet of strong stone-ware in one piece, without any complication of patented traps and

apparatus so liable to get out of order, and then only to be properly repaired by the patentee or his agents. Traps, then, should be simple and efficient, of strong Sanitary stone-ware, with a curved direction of the dipstone, ventilated to prevent the entrance of sewer gas into the house-drains. We should then hear no more of the perforating action of sewer-gas on lead. It is really somewhat disheartening to find Dr. Fergus arriving at the "most lame and impotent conclusion" that the abolition of water carriage in the treatment of sewage is the key to the solution of all our Sanitary difficulties; and as his remarks have hitherto passed unchallenged, I venture to submit my objections to his views.

As in these enlightened times every town presuming to civilisation must enjoy a constant and copious water-supply, no real Sanitarian can conclude that the sewage of large towns can be removed from their immediate neighbourhood in any other way than by the aid of water, which should carry it at once to some outfall, where it should be treated by a combined plan of clarification, precipitation and filtration, with or without its application to land. He who solves the sewage difficulty will doubtless be entitled to an honoured station in the Elysian fields, as one—

*Inventas, aut qui vitam excoluere per artes.*

Anything more revolting and disgusting to the senses of sight and smell than what may be witnessed at the manipulation of excreta in those towns where the pail system is the fashion can scarcely be conceived, and it was amusing to notice that the washings of the pails escaped into the drains; it must, moreover, be borne in mind that the surface-water of streets with its manurial debris, the flow from urinals, &c., &c., constitute a diluted sewage, and should be provided for.

There is a plan—as old as the cats—but, notwithstanding which, has been patented of course; it may do for small isolated communities, but for large towns it is quite out of the question; Glasgow would require an incalculable quantity of dry earth at an immense cost for supply and removal; but why should the Levitical precept be patented when common sense would dictate a pail in which the user should be educated to place a scoopful of dry earth, charcoal, or wood ashes after each visit, emptying it into a hole in the garden at least once a week. Wood ashes are advisedly stated, as I have strong doubts whether the ashes of coal are disinfectant at all, for cases might be cited which would point to deleterious action in giving off injurious gases instead of absorbing them, but there is not yet sufficient evidence to state positively on this point. Very recently an inquest was held on the death of three boys who died at St. Mary's Catholic Orphanage, North Hyde, Heston; the verdict re-

turned was "death from poisoning by sewer-gas," the earth-closets being found in a very bad condition. And on this subject, while referring to the very unequal prevalence of diarrhoea met with in different towns, Mr. Simon says, "and any such distribution of diarrhoeal diseases as has just been noticed warrants a presumption—indeed, so far as I know, a practical certainty—that in the districts which suffer the high diarrhoeal death-rate, the population either breathes or drinks a large amount of putrefying animal refuse."

The disadvantages to be urged against the pail and dry systems are the imperfect character of the various kinds of apparatus used; the likelihood of a nuisance arising from smell—"the carrying of pails through dwelling-houses necessitates the leaving open of windows and doors for hours afterwards"—the probability of propagating disease from the retention of putrescible filth in the immediate vicinity of dwellings; the amount of manual labour and expense entailed in the clearing out the closets, and in the event of "a strike," of this being done at all, and finally, after all, the melancholy fact that a grossly polluted sewage still remains to be disposed of; it is reckoned to be ten times more expensive than water carriage through self-cleansing house-drains and self-cleansing sewers, and that, as a mere matter of economy of transit, apart from the objection to the retention of decomposing matter about the premises; therefore the adoption of these reprehensible systems must be looked upon as instances of Sanitary retrogression, and all advocates of conservancy plans as obstructionists to Sanitary progress; it behoves us, then, not to adopt the Ovidean adage—

*Video meliora proboque, deteriora sequor—*

but to protect against such imperfect *insanitary* half-measures.

It was my good fortune to assist at the Congress of Hygiène at Paris in 1878, when I took the opportunity of remarking that they do not "order this matter better in France"; that they were on the wrong Sanitary groove; that their sewers appeared to be chiefly remarkable for not conveying sewage; the ventilating pipes for not ventilating; the drinking-water cisterns for assisting to retain and dissolve the gases which it is desirable to disperse in the air; admitting—"C'est magnifique! mais ce n'est pas l'hygiène."

These remarks led to a warm discussion at the Société Française d'Hygiène, and a committee was appointed to reply to them,—but the answer is still "under consideration."

The following is an extract from the report of the meeting of the Société Française d'Hygiène, on February 14th, 1879:—

"M. Durand-Claye, dans un rapport verbal très-

intéressant examine la récente brochure du Dr. Hinckes Bird sur la ventilation des chambres, des conduits d'eaux ménagères et des égouts.

"Le savant Ingénieur met en relief avec la plus grande impartialité les idées qui dans le travail de l'auteur, lui paraissent sages et pratiques, tout en protestant contre certaines de ses allégations à propos des installations Parisiennes.

"Un échange d'observations et de renseignements supplémentaires a lieu entre M. Durand-Claye et M. Paliard.

"En raison de l'importance du sujet, M. de Pietra Santa est prié de faire un extrait des principaux passages de la brochure de Dr. Hinckes Bird, pour le publier dans le *Journal d'Hygiène*, en tenant compte des observations critiques de M. Durand-Claye et des réflexions pratiques de M. Paliard."

It would appear that our Board of Works consider it cheaper to waste sewage than to utilize it—an unworthy excuse, certainly not worthy of a Board supposed to represent the progress and the intellect of the metropolis of the world; better to admit as has been said, "We have not yet found the right method, and there is not sufficient public spirit to take the trouble of searching for it." Surely the sewage of the metropolis should be purified before its discharge at the outfalls,—as it is 120 million gallons of diluted filth, representing 4,000 cubic feet of solid sewage, are daily poured into the submissive bosom of Father Thames and into the immediate vicinity of the populous suburb of Woolwich, and the statement that this can be done without making itself seen or smelt is simply an outrage to common sense. But to see "how not to do it" can be managed at enormous expense by circumlocution and stationary officers, promoters, and local politicians; read the amusing and instructive paper,—which reminds me of Dickens at his best,—on "The Thames and its Tributaries," by C. N. Cresswell (Annual Conference on National Water Supply, Sewage and Health, 1879). The Lower Thames Valley Main Drainage Board are now in the position of debtors to a very considerable extent, having been surcharged by the Government auditor some months ago to the extent of more than £2,000 for sundry expenses in connection with Mr. Haywood's scheme for draining the area that has to be dealt with.

The best laid schemes o' mice and men  
Gang aft a-gley.

The late inquiry on the Thames Navigation and the Sewage Outfalls, after already occupying twenty days, has been adjourned for five weeks. Engineer is being pitted against engineer, and chemist against chemist, in the most bewildering fashion. There will be the usual conflicting scientific evidence, but there can be no doubt that the banks impeding the navigation of the river off Barking and Crossness Valley really consist of sewage mud.



Why, asks the *Building News*, Jan. 30. 1880, is all this permitted to take place? Who is to blame for such an exhibition? Here are a score of men, each of them pre-eminent in his own department, going over questions which have again and again been argued, and we hoped had been set at rest for ever. Here are learned barristers, engineers, and chemists, fighting over a matter which ought not to be in dispute at all, and sacrificing valuable time about a subject on which all are practically agreed. The pollution of the Thames by the discharge into it of the London sewage is a fact about which there cannot be a shadow of doubt. Whether the mud-banks are caused by the sewage or not is a wretched quibble, quite beside the main question at issue, and one which ought never to have been imported into the case; in fact, the playing out of this expensive farce seems the climax of administrative imbecility.

Everyone is aware that the sewage of London ought to be defecated and clarified in some way or other, previous to its discharge into the river, and it is only a question of time how long the Metropolitan Board of Works will be allowed to continue such a nuisance as they are daily creating at Barking and Crossness. In no other river in England would such a state of things be permitted, and yet here, in the year of grace 1880, we find that all the best talent of the country is engaged for more than a month of days in endeavouring to decide whether or not such a flagrant and glaring evil can be considered an *impediment to navigation*! It is an impediment to far greater interests than those of navigation, and we are only doing our duty in declaring that such a state of things must speedily be put an end to.

It is consolatory to find that after the above-mentioned statement from Glasgow that "the abolition of water-carriage in the treatment of sewage is the key to the solution of our Sanitary difficulties," a very important contribution towards the solution of the question, how best to deal with the sewage of our large towns, is being carried out in Govanhill, one of the suburbs. A tenement, containing twelve separate dwellings, has been fitted up with one of Strang's Patent Sewage-Filters. This is an oblong box, three feet long, eighteen inches broad, and three feet six inches deep, and it is divided into three spaces internally; and as the inlet or soil-pipe is connected with the lowest, and the outlet pipe with the highest of these spaces or compartments, the sewage-water must pass upwards through them. The filter under trial was fitted up last March, and the Sanitary Committee appointed in reference to the matter have now reported that the following points seem to have been established by the experiments with this filter. The effluent water appeared almost clear, free from solids, and with scarcely any perceptible odour; the solid matter had been found

to be of considerable value as a manure; the use of the filter involves no change or restrictions on the present closet system; its use requires the complete isolation of the sewage-pipes from the building to which it is applied from the adjoining, and so renders it impossible for sewer-gas to get into the buildings by the drains.—*British Medical Journal*, August 23, 1879. This is almost too good to be true; but at Buckhurst Hill the sewage is said to be successfully manipulated by four filters forty feet square and six feet deep; the material is crushed burnt ballast, each filter resting eighteen out of the twenty-four hours.

(To be continued.)

## TREATMENT OF DISEASE BY CLIMATE.

### ARTICLE I.

By HERBERT JUNIUS HARDWICKE, M.D., F.R.C.S., M.R.C.P., &c., Hon. Physician to Sheffield and South Yorkshire Ear and Throat Hospital, and to Sheffield Public Hospital for Skin Diseases.

THE prevention and treatment of disease by climatic considerations and hygienic precautions, has occupied the minds of many eminent writers for some time back, and the valuable results of their untiring researches and investigations have been placed before us in various shapes and forms, with the view of circulating amongst those so deeply interested in the subject the vital truths connected therewith. With such an array of well written works on the subject, it would ill become one of comparative obscurity like myself to attempt to unfold the truths so well and ably enunciated by others before me, were it not for the fact that most authors on this subject have hitherto written for the edification of the medical world alone, and not for that vast army of invalids whose daily avocations consist almost entirely in battling against their formidable foes—weather and insalubrity. My endeavour will be, in treating my subject, to avoid technicalities as far as practicable, and to place before my readers the salient points as clearly and concisely as possible, in the hope that what I am about to write, may be of some practical use to some few of my fellows, whose lots, owing to no fault or indiscretion of theirs, but perhaps to hereditary and other misfortunes, are not so easy to bear as they might be.

That climate has a marked influence on the human body, is no mere hypothesis, but the experience of every-day life, borne out by scientific investigations and innumerable statistics, and therefore I shall not attempt to prove this thoroughly well established fact, but shall at once plunge *in medias res*, and endeavour to point out the peculiar characters of different climates and advantages and disadvantages of the various health resorts and spas

in this country, on the continent of Europe, and in Northern Africa.

Consumption of the lungs, or phthisis, as it is called, heads the list of those maladies which are peculiarly influenced by climatic considerations; and had it not been for the ravages of this disease amongst our people, we should not be in possession of such valuable information regarding the various climates of the world as we are at present. This fearful affliction, whose causes almost entirely depend on climate and soil, is found in all latitudes and races, and no age is entirely exempt from it; it is both hereditary and acquirable, and often remains latent in the system of an individual, or in a family, for an indefinite period of time, being perhaps called into active existence by some other disease, some injury, or by the performance of some natural function. It is found at the equator, where the mean temperature is 40° F., as well as in the very coldest climates; although it has been stated that it assumes slightly different characters in each extreme of climate, being of an inflammatory character and generally chronic, and associated with catarrh in very cold climates, and in very hot ones running an acute course with febrile symptoms. Thus it would seem that there are different kinds of the disease met with in different quarters of the globe, or that all people are not equally susceptible to the influence of climate. For instance, at Gibraltar, the phthisis mortality amongst white people is 5·8 per 1000; whilst amongst negroes it is 48 per 1000. This remarkable difference is not observed in many other localities, though it is generally admitted that negroes succumb to phthisis in most parts of Europe more readily than white men, but whether the reverse is the case in the equatorial districts of Africa is a question that cannot yet be settled. We know that in some of the northern districts of Africa white people not only do not become a prey to phthisis, but that consumptives are actually benefited by a sojourn there. It is also beyond doubt that some forms of phthisis are benefited by one particular kind of climate, and another by another kind, and that what is injurious in one case is found to be of service in another. It is generally believed that high ground offers the greatest immunity from phthisis, provided it is well sheltered and otherwise salubrious, though many people still bow allegiance to the very low temperature and the ague theories. In support of the high-altitude theory, it has been stated that at Hamburg and Marseilles, both of which places are at the sea-level, there is a greater phthisis mortality than at higher situations, and that the St. Bernard Mountain is remarkably free from this disease. Then, again, in Switzerland, the phthisis mortality has been shown to be immensely in favour of this theory, for in the low regions within 1,650 feet of the sea-level, the mortality is 10·2 per

cent., in the medium altitude, between 1,650 feet and 2,700 feet above the sea-level, it is 9·4 per cent., and in the high altitudes, between 2,700 feet and 4,000 feet above the sea-level, it is 5·1 per cent., whilst in the districts above 4,000 feet from the sea-level there is an absence of phthisis altogether. It is this that makes the Upper Engadin, which lies between 5,000 and 6,000 feet above the sea-level, and Davos-am-Platz, which is rather lower down, so celebrated as residences for consumptives. Then, again, in the Peruvian Andes, at Lima, Cerropasco and Huanuco, phthisis is unknown, as also it is at all places in that district lying above 8,000 feet from the sea-level, while it is common enough in the lower districts nearer the sea-level. All this seems strongly to favour the high-altitude theory, the good results of which are by some authors said to be due to the increase of the appetite and digestive powers, and by others, to the inhalation of rarefied air, which causes an increase in the capacity of the lungs and chest. The opponents of this theory declare that the above facts go for nothing, until the fact can be explained that the nomads of the Kirghis land, a steppe situated 100 feet below the sea-level, in Asia, are quite exempt from phthisis. This is certainly somewhat curious, and is accounted for by many people by the fact that these tribes feed largely on koumiss, or fermented mare's milk, which contains a plentiful amount of lactic acid, carbonic acid, and alcohol, and is a very agreeable and refreshing drink. The effects of this fermented milk are a tendency to fat, and a sense of comfort, but it is very doubtful whether it possesses the curative properties in phthisis that are attributed to it. In spite of the koumiss difficulty, it is generally admitted that high, warm, and dry elevations, with their greater clearness of atmosphere, and consequent intensity of power in the sun's rays, combined with the lower barometrical pressure, will certainly procure great immunity from phthisis. The height of a place above the sea-level affects the temperature 1° for every 400 feet of altitude, and influences the pressure of the atmosphere, which at sea-level amounts to nearly fifteen pounds on every square inch of the surface of the body, and rapidly diminishes as we ascend above this. It must be borne in mind that the lessened atmospheric pressure of mountain resorts affects also the balance of the circulation, often causing congestions or hæmorrhages, and therefore are contra-indicated for people predisposed to hæmoptysis, or bleeding from the lungs.

Believers in the cold theory declare that in Norway, Sweden, Iceland, the Faroes, the Orkneys, and Greenland, phthisis is exceedingly rare, but this is by no means satisfactorily proved, and numbers of people who have visited all these places, state that it is the reverse of the fact.

The ague theory is, that wherever ague is preva-

lent, phthisis is unknown, and that in ague districts where drainage has been effected, and ague thus driven forth, phthisis has immediately broken out. Lincolnshire, with its fens, is quoted as a locality where phthisis is almost unknown, but from my own personal experience I can contradict this emphatically.

So much for the three chief theories of immunity. The evidence is undoubtedly in favour of the high-elevation theory, but it must not be imagined that the elevation is all that must be considered in looking for a suitable locality for consumptives. The purity of the air, variations in temperature, aspect, situation with regard to surrounding hills and woods, water-supply, drainage, &c., must all be very carefully taken into consideration. One of the most necessary conditions for a healthy climate is purity of air, by which I mean freedom from malaria or miasmatic emanation, or from atmospheric contaminations produced by over-crowding, or evolved by manufacturing or chemical processes. Fresh air has a rapid and powerful effect on both the healthy and the sick, giving a tonic influence to health and nutrition, and to the blood formation. Crowded workshops and dwellings, badly ventilated and closely built in large towns and manufacturing districts, are the propagating centres of phthisis; and removal from such hot-beds of disease to the fresh air of the country, the sea-shore, or the mountains, will often snatch the unhappy victim from the jaws of death, and place him on the road to speedy recovery. In estimating the purity of air, too much importance must not be attached to the relative proportions of the oxygen and nitrogen of the atmosphere, which vary little in towns, country, sea-shore, or mountains, and even in various latitudes. More attention should be paid to the existence or absence of noxious agents in the atmosphere, the result of the accumulation, stagnation, and decomposition of refuse matters.

It is almost impossible for free ventilation to take place in towns where the streets and houses are crowded together, and where there are usually several families living under one roof; and thus the atmosphere becomes loaded with impurities, which act as disease-producers in the bodies of the unfortunate residents. There is in such places very little ozone in the atmosphere, while in the country, and at the sea-shore, the air is exceptionally rich in it, and on that account has a far greater chance of keeping pure and free from poisonous admixtures, for ozone, which is a condensed form of oxygen, has the power of destroying gases caused by organic and inorganic decompositions floating in the air, and is always found more particularly in atmosphere which is more under the influence of the sun's rays, or which is influenced by vegetation. It has also been found to stimulate the formation of blood-corpuscles. In

mountain places, and at the sea-side as a rule, the atmosphere contains very few dust particles, and hardly ever *organic* dust particles, which are supposed to consist of fungous spores, and are the main channels by which miasma enters the system. In towns, on the contrary, the air is often loaded with all kinds of noxious gases, such as carburetted, phosphoretted, and sulphuretted hydrogen, ammonia, and excess of carbonic acid, which poison the blood and interfere with the proper functions of the breathing apparatus. Vegetation plays an important part in the purification of the air, and in rendering it salubrious, the resinous evaporations of trees and shrubs possessing a very important influence, and giving to some places a world-wide reputation. The natives of Central and Southern Europe are fully alive to the value of vegetation, both in protecting them from the sun's rays and in purifying the atmosphere, and in almost all their towns of any importance, the principal streets are lined on both sides with trees.

It is true that the higher we go from the sea-level, as a rule the cooler becomes the atmosphere, and this, at first sight, would lead one to suppose that very high elevations could not be very safe places for consumptives to reside in; but the fact is that the mean temperature alone of a place, whether hot or cold, is no criterion of its climate as a health resort, being of far less importance than the rapidity and frequency with which it changes from its highest to its lowest temperature, the choice falling, *ceteris paribus*, not on that place which has the warmest climate, but on that which is most equable. Then, again, the effects of an equable temperature depend on the dryness or moisture of the atmosphere; and therefore the point to be decided in looking for a health resort is, whether an equable place is dry or tonic, or whether it is humid or sedative, for the difference is enormous to an invalid. A dry, warm air stimulates the action of the heart and lungs, and causes the skin and liver to act freely, and the kidneys to act but slightly, and is totally unfit for febrile and nervous ailments, dry asthma, irritative phthisis, liver and skin diseases; but very beneficial in chronic bronchitis, chronic rheumatism, scrofula, debilitating discharges, and moist asthma. Sedative climates, on the other hand, cause the skin and liver to act freely; and the air contains less oxygen than dry air does, which causes hurried breathing, imperfect respiration, and less nervous energy and muscular power, the result being that, owing to the less energetic combustion, fat is produced by assimilation of the carbo-hydrates. Such a climate is suitable to spasmodic asthma, chronic bronchitis, irritable mucous membrane of the lungs, hard dry cough, and many wasting diseases. As a rule moist climates are more equable than dry ones, and very frequently have far clearer and purer atmospheres. It must not be imagined that the driest air is always the clearest

and purest, for the most transparent and bluest atmosphere is that immediately preceding a heavy fall of rain, when the particles of dust floating about are rendered heavier by the moisture, and fall to the ground; and in the tropics it is commonly observed at midnight that the atmosphere is clearest when there is a heavy dew. At the same time clouds and mist are not standards of dampness only; for many very damp places, such as Madeira and Pisa, are never visited by mists, and such dry places as Nice and Hyères are often visited by profuse mists. A place may be very damp, and yet have rain comparatively seldom, unless the condensing and cold currents of air be frequent; a constant fall of rain being merely a sign of moisture combined with frequent change of wind. Madeira and Pau have more moisture in the air than any other important health station, but Madeira has an average rainfall of 80 inches of water with 98 rainy days, whilst Pau has an average rainfall of 48 inches with 140 rainy days. Venice, which is almost as damp a place as Pau, has yet only 84 days of rain. These differences are owing to the more frequent condensing currents of air at Pau than at Madeira and Venice. Then, again, some places have much greater rainfalls than others, but far less rainy days in the year. Hyères, for instance, which is a dry place with only 62 rainy days, has as great a rainfall as Madeira with its 98 rainy days; and Cannes, with its 52 rainy days only, has a greater annual rainfall by 5 inches than London with its 178 rainy days.

Generally speaking, the early stage of phthisis requires a dry, warm, sea-side winter climate, such as the North Coast of Egypt, the coast of Western Australia, or Malaga; the second stage requiring a more sedative climate, such as Rome, Pisa, Madeira, Queenstown, or Torquay. For the third stage, the greatest care should be exercised in the selection of a winter residence, as the patients are often not fit to travel far, or for a long time together. Torquay, Bournemouth, Hastings, Ventnor, and Worthing are convenient and suitable for this class. Of course, in selecting a winter residence the force and direction of the prevailing winds should be always studied with a view to their avoidance. Also it should be borne in mind that in all southern climates there is generally a rapid and sudden decrease in the temperature after sunset, and a heavy fall of dew during the night; this being more noticeable in dry than moist climates, and therefore, it is advisable *always* to wear flannel in winter and summer alike, no matter how hot the air is.

We can strongly recommend Wortley's *Phosphated Lime Juice and Quinine*, manufactured at Bridlington Quay, as a genuine and highly valuable non-alcoholic medicinal beverage.

## CHRONIC DYSPEPSIA.\*

By A. ST. CLAIR BUXTON, L.R.C.P., M.R.C.S.

THE aim of the physician, in the treatment of chronic dyspepsia, arising from whatever cause, should be to order food of such a nature, to be taken in such proper quantities, and at such regular intervals, as to afford the patient the maximum of nourishment and support with the minimum of irritation.

A great number of cases of indigestion, in which the most distressing symptoms are prominent, are produced by the use of *improper food*, or by food being taken at *improper times*. The Dietary appended, is intended to serve as a general guide for adult patients, and may be modified according to the nature of each case.

It is impossible to lay too great stress on the importance of attending most rigidly to rules in the matter of feeding. Medicines alone are powerless to effect cures—indeed, in many cases, they are not required.

In England people are apt to depend too much on dinner for support. An attempt should be made to diminish the quantity of food taken at that meal, until a greater inclination is felt for breakfast. In other words, the quantity of food taken during that portion of the twenty-four hours not devoted to sleep, should be more equally divided. The alimentary canal is not adapted to the reception of large quantities of pabulum at one time, and far from being *nourished* by such large meals, the patient is simply *irritated*, and much of the swallowed material passes away incompletely digested, and in so doing, sets up many of the unnatural actions on which chronic dyspepsia depends.

Pastry and sweets must be absolutely forbidden.

The habit of drinking large quantities of fluid, especially those containing much alcohol (such as strong wines and ardent spirits) is greatly to be condemned.

*Hot* beverages are also, even in small doses, bad. Van Houten's soluble cocoa, chocolat, or coffee (of which the first is the best), should be taken *lukewarm* and with plenty of milk. Tea is frequently very injurious. Very weak brandy and water, or sherry and water, may be prescribed in some instances with benefit; but in my opinion, good bitter ale, and very light wines such as Hock and Moselle, Chablis, and claret and water, are more suitable for weak stomachs. Milk, with or without water, or soda-water, is *par excellence* the most valuable of all beverages at our command.

It may be observed that aerated bread is by far the best, and should in all cases be at least two days old before coming to the patient's table. Whole-meal bread is also suitable to many dyspeptics. Moderate

\* Catalogue of International Temperance Exhibition, 1881.

exercise should be taken *before* meals. The sitting posture *after* meals is preferable to the horizontal.

	BREAKFAST. 8 a.m.	LUNCHEON. 1 p.m.	DINNER. 6 p.m.
Sunday.	Bread, 4 oz.; Butter, $\frac{1}{2}$ oz.; Mutton Chop, $\frac{3}{4}$ oz.; Milk, Cocoa, Chocolate, or Coffee, $\frac{1}{2}$ pint.	Bread, 3 oz.; Butter, $\frac{1}{2}$ oz.; Ale, or Wine and Water, $\frac{1}{2}$ pint.	Bread, 3 oz.; Hot Vegetables, 3 oz.; Roast Beef, 4 oz.; Ale, or Wine and Water, $\frac{1}{2}$ pint.
Monday.	Bread, 4 oz.; Butter, $\frac{1}{2}$ oz.; Pheasant 3 oz.; Milk, Cocoa, Chocolate, or Coffee, $\frac{1}{2}$ pint.	As above.	Bread, 3 oz.; Hot Vegetables, 3 oz.; Clear Gravy Soup, $\frac{1}{2}$ pint; Boiled Rabbit, 4 oz.; Ale, or Wine and Water, $\frac{1}{2}$ pint.
Tuesday.	Bread, 4 oz.; Butter, $\frac{1}{2}$ oz.; Sole or Plaice, $\frac{3}{4}$ oz.; Milk, Cocoa, Chocolate, or Coffee, $\frac{1}{2}$ pint.	As above.	Bread, 3 oz.; Hot Vegetables, 3 oz.; Roast Lamb, 4 oz.; Ale, or Wine and Water, $\frac{1}{2}$ pint.
Wednesday.	Bread, 4 oz.; Butter, $\frac{1}{2}$ oz.; Mutton Chop, $\frac{3}{4}$ oz.; Milk, Cocoa, Chocolate, or Coffee, $\frac{1}{2}$ pint.	As above.	Bread, 3 oz.; Hot Vegetables, 3 oz.; Chicken, 4 oz.; Ale, or Wine and Water, $\frac{1}{2}$ pint.
Thursday.	Bread, 4 oz.; Butter, $\frac{1}{2}$ oz.; Yolks of Eggs lightly boiled, 2; Milk, Cocoa, Chocolate, or Coffee, $\frac{1}{2}$ pint.	As above.	Bread, 3 oz.; Hot Vegetables, 3 oz.; Boiled Mutton, 4 oz.; Ale, or Wine and Water, $\frac{1}{2}$ pint.
Friday.	Bread, 4 oz.; Butter, $\frac{1}{2}$ oz.; Fresh Herring, or Mackerel, $\frac{3}{4}$ oz.; Milk, Cocoa, Chocolate, or Coffee, $\frac{1}{2}$ pint.	As above.	Bread, 3 oz.; Hot Vegetables, 3 oz.; Boiled Turkey, 4 oz.; Ale, or Wine and Water, $\frac{1}{2}$ pint.
Saturday.	Bread, 4 oz.; Butter, $\frac{1}{2}$ oz.; Potted Beef, or Sardines in Oil, $\frac{1}{2}$ oz.; Milk, Cocoa, Chocolate, or Coffee, $\frac{1}{2}$ pint.	As above.	Bread, 3 oz.; Hot Vegetables, 3 oz.; Clear Soup, $\frac{1}{2}$ pint; Fish, 4 oz.; Ale, or Wine and Water, $\frac{1}{2}$ pint.
SUPPER (if required), 10 p.m.			
Bread, or Plain Biscuit ... .. 2 oz.			
Milk, or Weak Brandy and Water ... .. $\frac{1}{2}$ pint.			

## UNINTOXICATING WINES.

By NORMAN KERR, M.D., F.L.S.

THE ripe fruit of the vine possesses cooling, refrigerant, blood-depurant properties. The unfermented juice of the grape is rich in sugar, contains other nutritive constituents, and acts as a gentle diuretic and aperient. So excellent a therapeutic agent is the ripe grape, that in Switzerland and other continental regions the grape (*cure de raisins* of France) has achieved an acknowledged reputation. From early times to the days of Cullen and Pereira, the virtues of the grape have been highly extolled by the medical faculty.

In fermented intoxicating wines the most valuable properties of the grape are either absent altogether, or present in greatly diminished quantity, alcohol and other new products being formed at the

expense of the saccharine, albuminous, and other useful components of the unfermented juice.

Alcohol is an irritant narcotic poison, and is contra-indicated in many inflammatory conditions, where the cooling, refreshing, purifying, and nutritious qualities of the unfermented grape-juice are markedly beneficial. Hence we find that, in addition to the fresh grapes, dried grapes, or raisins, and the unfermented juice, have been a favourite prescription in ancient as well as modern times. Dodoens (*Herbal*, p. 651, Lond., 1578) speaks of the "dried raysens" as "good for cough and all diseases of the lungs, kidney, and bladder." Louis Cornaro had his strength renewed at the beginning of every vintage by new wine. Cæsar Frederick in the sixteenth century (*Kerr's Collec.* vii., 142; *Hakluyt*, II. 339-375) relates how a friend of his was ordered in Cochin to drink new unintoxicating wine night and morning.

Dr. Russell, in his *Natural History of Aleppo*, says that the juice of ripe grapes inspissated was largely used in the treatment of febrile inflammatory diseases.

For the last twenty-one years I have been in the habit of prescribing the unfermented wine manufactured by Mr. Frank Wright, Chemist, 68 High Street, Kensington. This, which is a natural, red, unintoxicating wine, prepared from grapes imported from the Continent, I have found of considerable value, taken either alone, with iced or aerated water, in fever or in phthisis, with hæmoptysis. In hæmorrhages generally, when alcohol is contra-indicated, this wine is especially useful. In one severe case of small-pox, where recovery was despaired of, the patient, a woman, aged twenty-eight, could swallow nothing for nearly eight days but this unfermented wine-and-water in the proportion of half and half.

But the taste of invalids, as of the healthy, is capricious, and I have long endeavoured to persuade some enterprising Englishman to supply a variety of unintoxicating wines as articles of medicine and of diet. At length Mr. Wright has, at my suggestion, imported from abroad several unintoxicating wines, which he now offers along with the wine he has himself been manufacturing for the past quarter of a century.

These newly-offered wines are—

*Riesling* (German).—A pale yellow, thin, delicate bouquet wine; dry, with slightly acid taste.

*Muscat* (French; from the "Muscat" grape of the Pyrenées Orientales).—A pale pink, full-bodied, very sweet, luscious wine, with the distinctive flavour and bouquet of the Muscat grape, well marked.

*Lachrymæ Christi* (Italian; from the celebrated grape of that name grown at the base of Mount Vesuvius).—A thin, fine wine, with a characteristic flavour which is both nutty and fruity, and a sweet, sub-acid taste.

*Alto Douro* (from the grape which yields the best genuine fermented port wine).—A fine, sweet wine, with a delicate nutty flavour, and of a light-red colour.

*Bordeaux* (Bordeaux).—A dark red-coloured wine with considerable body. Has a fruity aroma, and is pleasantly acid to the taste.

*Madeira* (Madeira).—A rich red-coloured wine, with medium body, and a delicate, peculiar, but agreeable flavour.

*Congress* (American; when fermented has a large trans-Atlantic sale as "American port").—Is a deep purple, very dry wine, with tolerable body, and with a rough, astringent, fruity flavour.

These wines have considerable dietetic and hygienic merit. While valuable medicinal remedies, they are wholesome and acceptable social beverages, when taken moderately by those with whom they agree. With eight varieties of genuine, pure, un-intoxicating wine, there should be little difficulty in suiting almost any palate. It seems to me a favourable omen for the future sobriety of our country, that the wine cellar can now be stocked with a varied assortment of good, sound, un-intoxicating wines.—*Med. Press Circ.*

#### ALIMENTATION.

Few people, when they sit down to their daily meals, ever think of inquiring or even thinking about the nature of the food they so readily dispose of, whence it comes, or the reason why they eat it at all. This is somewhat remarkable, considering the great number of times that most people do sit down to their meals during their life-time; and when we come to consider the matter more closely, we are more and more surprised that such a state of things can exist in this thinking age. The principal aim of cookery in our time appears to be to provide abundantly, and this is owing as much as anything else to the fact that people will persist in having quantity and trouble themselves little about quality. A short sketch will be here given of the process of alimentation and of the various kinds of food-stuffs that are necessary to sustain the human body; with the hope of removing some of the many fallacious ideas on this subject, which are so prevalent amongst the various classes of society we meet with.

It will be necessary first of all to take a cursory glance at the arrangement of the organs of alimentation, without a correct knowledge of which the function of alimentation cannot properly be understood. What we mean by the organs of alimentation is, that particular portion of the body which is set apart for the reception of meat and drink, and their subsequent conversion into nutriment. These organs are the mouth, pharynx, gullet, stomach, and intestines, together with their appendages.

The mouth is that part which contains the tongue and teeth, and lies between the lips and throat, with the palate above it, and the cheeks on either side. Passing backwards from the mouth, the pharynx is reached, which is a large cavity, bounded in front by the posterior orifices of the nostrils above and by the cavity of the mouth below; behind and above by the spinal column, with the muscles in front of it; and below by the orifice of the larynx, or voice-box, with its lid, the epiglottis, in front, and by the upper orifice of the gullet behind. The gullet passes downward from the lower extremity of the pharynx, in front of the spinal column and behind the larynx, and contents of the chest, and opens into the upper part of the stomach near its left extremity. The stomach consists of a wide tube, with muscular walls, which are capable of enormous distension, and are in contact when the organ is empty. It has two openings, the upper, or cardiac orifice, named thus on account of its proximity to the heart, and the lower, or pyloric orifice, called also the pylorus, which is the outlet through which the contents of the stomach pass into the intestines. The intestines occupy part of the cavity of the abdomen or belly, and consist of the large and small intestines. The small intestine is again subdivided into the duodenum, jejunum, and ileum, a division which is of no practical use; while the large intestine consists of five separate parts, viz. the cæcum, ascending, transverse, and descending colon, and rectum, which latter is the final termination of the intestinal canal. The stomach and intestinal canal are in close contact and communication with various other organs of the abdomen, as the liver, pancreas, and gall-bladder, as we shall see presently.

The way in which these organs of alimentation perform their functions is as follows. Food is taken into the mouth where it is caught by the tongue and teeth, and ground by the latter until it becomes pulpy, during which process it is well mixed with the saliva, which is a secretion of the salivary glands in the lining membrane of the mouth. This secretion is a thin and watery fluid, containing a small quantity of animal matter, called ptyalin, which has the peculiar property of turning starch into sugar, an operation of great importance when we remember that starch is insoluble and sugar highly soluble. This process of grinding the food is called mastication, and is the first and a very important part of the process of alimentation. The food is next taken in a pulpy state by the tongue to the pharynx, the muscles of which grasp it and squeeze it backwards, across the epiglottis, which during the process closes upon the upper aperture of the voice cavity, or larynx, and forms a bridge for the morsel to pass over. From the pharynx the food passes into the gullet, behind the larynx, and

is then propelled by the action of the muscular walls of the œsophagus, or gullet, downwards into the stomach. Here takes place the principal part of the process of digestion, in the following manner. When the food enters the cardiac orifice of the stomach, the organ immediately becomes somewhat excited, grasps the morsel with its muscular walls and rolls it about until it becomes thoroughly mixed with the gastric juice, which is a secretion of a watery nature, mixed with a few saline matters and containing free hydrochloric (or muriatic) acid and a peculiar substance called *pepsin*, which appears to be somewhat similar in character to *ptyalin*. This gastric juice is thrown out when food enters the stomach, by a number of small glands which are embedded in the lining membrane of the stomach, and are called *peptic glands*. It entirely dissolves and disintegrates all proteids, such as flower, albumen, fibrin of blood, syntonin of muscle and flesh, casein, gelatin, and chondrin of cartilages, forming them into a very soluble substance called *peptone*. It has no apparent effect on fats, which are dealt with in a further stage. After being continually rolled about in the stomach and well mixed with the gastric juice, the food becomes converted into *chyme*, which is of the consistence of pea-soup.

A quantity of this chyme gets absorbed by the process of *osmosis*, or oozing of itself through the delicate walls of the numerous blood-vessels of the stomach, and carried to the liver. The remainder passes through the pylorus into the first part of the intestinal canal, the duodenum, and thence forwards into the large intestine. The lining membrane of the intestine is studded with a number of small glands, called the glands of Lieberkühn, which pour out a secretion, called the intestinal juice; but it does not appear what particular function this juice has to perform. There are also a number of other glands, called Brunner's glands, whose functions are entirely unknown. The more important structures of the intestine are what are called the *villi*, being minute thread-like processes of the lining membrane crowded together, making the surface look like velvet pile; each villus containing the commencement of a lacteal vessel, surrounded by a network of blood-vessels. There is also in the first part of the intestine an important opening, through which the contents of the hepatic (bile) and pancreatic ducts enter the intestine. This mixture of bile and pancreatic juice acts upon the chyme after it has passed through the pylorus, and converts it into *chyle*, by the following process. The alkali of the bile neutralizes the acid of the chyme, and together with the pancreatic juice separates the fatty matters of the chyme into minute separate particles. The conversion of starch into sugar, suspended whilst the food is in the stomach, again takes place when the acidity of the chyme has become neutral-

ized in the duodenum. The chyle is forthwith squeezed along the small intestine, with the minute particles of fat suspended in it, and is for the most part absorbed by osmosis into the vessels of the villi. As the digested matters are forced along the canal they in time are robbed of all their peptones, fats, and soluble amyloids (sugar, dextrine, gum, &c.), and are forced forwards into the large intestine, where they acquire an acid reaction and their characteristic odour and colour. So much for the process of alimentation. The next consideration must be the kind and quantity of food that it is necessary for man to take daily in order to keep up a healthy condition of body. It has been found, according to Huxley, that a man requires daily about 8,000 grains of dry solid matter in order neither to lose nor gain in weight; and that his blood absorbs by the lungs about 10,000 grains of oxygen gas. This makes up a total of 18,000 grains of daily supply of dry, solid, and gaseous matter, or about two pounds and three quarters, one tenth (800 grains) of which passes away by means of the intestinal canal, the remaining 17,200 grains being eliminated by means of the lungs, skin, or kidneys. This daily supply consists, besides oxygen gas, of food-stuffs, called proteids, fats, amyloids, and minerals. Proteids are composed of carbon, hydrogen, oxygen, and nitrogen, with frequently sulphur and phosphorus, and are represented by gluten, albumen, fibrin, syntonin, casein, gelatin, and chondrin. Fats are composed of carbon, oxygen, and hydrogen, the latter in greater quantity than is required to form water if united with the oxygen they possess. Amyloids consist of carbon, oxygen, and hydrogen, but have only enough of the latter to just produce water with their oxygen. They are represented by starch, dextrine, sugar, and gum. Minerals are represented by water, and salts of various alkalis, earths, and metals. No substance will of itself permanently support life unless it contains a certain amount of proteid matter, as albumen, casein, fibrin, syntonin, &c., for the human body itself contains a large quantity of proteid matter, muscle, fibrin, &c., which must be constantly replaced as the body loses its nitrogen. The final results of the oxidation of proteid matters are carbonic acid, water, and ammonia, which are the ultimate shapes of the waste products of the body, passing off by means of the skin, lungs, and kidneys. Thus it is obvious that any animal will starve as soon as it begins to feed only on fats or amyloids, or both combined. It must not be imagined, from what has been said, that a purely proteid diet is the best for man; for, although life cannot be sustained without proteid food, yet the physiological labour involved in commuting large quantities of proteid food, and also the expenditure of power and time in dissolving and absorbing it, are too great; and therefore it is always advisable to



mix proteid food with fats, amyloids, or both. Many articles of food are in themselves a mixed diet, as, for instance, butcher's meat, which usually contains from 30 to 50 per cent. of fat; and bread, which contains, besides gluten, a large quantity of starch and sugar, and a little fat. Thus bread and butcher's meat, if properly proportioned, form a very good permanent food; and the proportion should be about 200 to 75, or two pounds of bread to three quarters of a pound of butcher's meat per diem. Food-stuffs have been divided into heat-producers and tissue-formers, the amyloids and fats representing the former, and the proteids the latter. This division cannot be relied upon, as the oxidation of the proteids also produces heat, and amyloids and fat also act as tissue-formers, though neither in a great degree. Nor is such a division of any practical use. With regard to the value of particular kinds of food-stuffs, the following facts may be laid down with tolerable accuracy. Of flesh-meat, pork and veal are particularly hard to digest, while game and fowl are the reverse. A good deal depends, however, on the way veal and pork are cooked, and it may be well here to point out that the more thoroughly the meat is cooked the more completely the heat causes the minute fibrillæ to separate from each other, and consequently the more easily is it digested in the stomach. Although pork is the hardest to digest of all meats, yet it is highly nutritious. Beef and mutton are fairly easy of digestion, the more so if boiled or stewed; and fowls of all kinds are still easier to digest. Fish, of all flesh foods, is that most suitable for dyspeptics or invalids, *if boiled*; but *if fried* it is far more difficult of digestion. Salmon requires rather more digesting than sole or halibut, and consequently has incurred an undeserved reputation as an indigestible food. It does not so much matter, after all, what food is chosen, so long as it is properly cooked and the chooser is in good health and *hungry*. To digest food quickly the stomach must be ready for it—that is, the eater must be *hungry*—and the amount taken at a time should not exceed what the stomach can easily and comfortably do with. Drink and meat should be introduced into the stomach, in proper proportions, at the same sitting; the meat (at dinner) should be as mixed as possible, consisting always of bread, vegetables, flesh-meat with fat, and pudding, with as few condiments and et ceteras as possible; and there should be allowed nearly an hour's rest after the meal. If a weight is felt in the stomach after a meal, digestion is not progressing well, and an alteration must be made in the mode of feeding. It is no use taking medicine for such a condition, as many do; the proper course to pursue is to find out what is the cause of the weight, and to remove it as speedily as possible, when the effect will cease.

An interesting and instructive report on the nutri-

tive value of various kinds of foods, just issued by Professor Atwater, of the Agricultural College of the State of Connecticut, is referred to by the *Echo*. The conclusions arrived at, it is observed, should be welcome to the poor, seeing that, as a rule, the cheapest foods are the most nutritive. The Professor takes as a basis medium—neither over-fat nor over-lean—beef, as having a nutritive value of 100; and of meat, game, and fowl, he finds that, excluding smoked ham and beef, fat pork, the common food of our rural population, is the most nutritive. His next group consists of various kinds of animal produce, milk, butter, cheese, eggs; and of these skimmed cheese heads the list, being of the nutritive value of 159.0, as compared with 103.0 for cheese made from milk with cream added, and 124.1 from butter. Turning to fish, the professor concludes that, of fresh fish, salmon and Spanish mackerel are the most nutritive; but of prepared fish, smoked herring is the most nutritive, being as 163.2 to 12.8 for oysters. It is deduced from these figures that the foods which may be obtained for the smallest price, fat pork, skimmed cheese, smoked herrings, salt mackerel, &c., are far more nutritious than high-priced luxuries which find favour with the wealthy and the fashionable. On the other hand, considered as daily staples of food, few digestions would prove equal to a long course of fat pork and smoked herrings, and cheese so hard as to have received the ordinary nick-name of “cart-wheels.”

## ZENANA AND MEDICAL MISSION.

### HOME AND TRAINING SCHOOL FOR LADIES.

71, Vincent Square,  
Westminster, S.W.

THE object of this society is to train ladies to be missionaries abroad, that, while carrying the Gospel of good tidings, they shall be at the same time enabled, by the medical knowledge received at the home and school, to minister to the physical necessities of the women and children. How great a boon this will be to the female population of foreign countries, and the need for such an institution as this, have been fully acknowledged by eminent men, who have witnessed the condition of women and children in India and other foreign lands, and the necessity for just such lady medical missionaries as are trained by this institution. To prepare ladies for this needed work, they receive medical instruction by means of lectures, attendance on hospitals, and other practical work, such as visiting amongst the poor, and preparing themselves for becoming certificated midwives by attendance upon the women in the surrounding districts.

The Committee do not undertake to send out any

missionaries, and thus do not interfere with the other Missionary Societies.

Christians of all denominations are admissible as pupils, and for this reason we would specially commend this unsectarian Medical School and Home. To carry out this good work, there is need of much support.

Contributions may be sent to the Treasurer, Surgeon-General Francis; and for particulars respecting the work, apply to Dr. G. de Gorrequer-Griffith, Hon. Secretary, 9 Lupus Street, London, S.W.

**LEAD IN FOOD.**—Dr. Gautier, in a paper read at the Académie de Médecine on the "Continuous Absorption of Lead in our Daily Food," calls attention especially to alimentary substances contained in metallic boxes and soldered by means of lead alloys, which must be the means of incessantly introducing a very appreciable amount of lead into the economy. The articles of food most loaded with this poisonous metal are fish preserved in oil, potable waters that have remained in leaden cisterns or pipes, seltzer waters and acid drinks and condiments, such as white wines and vinegar. Lead surrounds us on all sides, our dwellings being painted with it, and our culinary vessels, &c., contaminated with it. The danger from this source is latent and insidious, but none the less continuous and certain.—*Union Méd.*

## REVIEWS.

*Baths and Wells of Europe*, by John Macpherson, M.D. (Macmillan & Co.)—This book is one of the most complete treatises we have met with on the subject of baths and wells, and will well repay one the time spent in reading it. The first chapter is devoted to a description of bath-life; the second treats of mountain air and summer resorts; the third gives a description of sea air, winter resorts, and hot-air baths; the fourth contains a detailed account of the external uses of water; the fifth describes the action of water when taken internally; the sixth and seventh treat of mineral waters generally; and the remainder of the book is devoted to a lengthy description of particular waters, such as Aix-le-Bains, Vichy, Eaux-bonnes, Homburg, &c. The book is well written, and is suitable for all classes, being free from unnecessary technicalities; and for those about to visit any of the continental spas, it will be of the greatest value.

*The Mother's Guide in the Management and Feeding of Infants*, by John M. Keating, M.D. (Henry Kimpton).—The only fault we have to find with this

useful little book is, that it contains several expressions quite unintelligible to English readers, such as "as much rhubarb dust as will cover a *dime*." In other respects it is what its title indicates, viz. a "mother's guide," and the fact that the Author is the lecturer on the diseases of children at the celebrated University of Pennsylvania, is a sufficient recommendation for it, and will be sure to obtain for it a good sale. There is nothing in this little book except what is really useful, and at the same time, nothing of importance appears to have been omitted. We recommend it to our readers, and feel sure they will not be disappointed with it.

## CORRESPONDENCE.

To the Editor of THE FAMILY DOCTOR.

SIR,—In my town almost all the houses have their sink-pipes running directly into the main sewer. I have spoken to numbers of builders about it, and they all tell me that there is no harm in it if the pipes are properly trapped, and that the authorities allow them to lay their pipes in that manner. Will you please to give me your opinion on this point, as I am much inclined to think that such sanitation is not correct?

Sir, yours truly,  
DRAPEL.

[There should be no *direct* communication between the sink-pipe and the main sewer. We cannot believe that any medical officer of health could allow such a state of things. Read Dr. Teale's *Dangers to Health* (Churchill), and show it to the builders you refer to, and also, if you can, to your medical officer of health.—ED.]

*Theta*.—Such a person should avoid the east-coast at this time of the year.

*Adair*.—Bathe your feet in warm salt-water every night on going to bed.

*B. W.*—Any thermal saline spring. First of all, of course, you must consult your "family doctor."

*Justitia*.—You are entitled to a fee as an ordinary witness and nothing more.

*X. and J. W.*—Bath, or Leamington.

*Solicitor*.—Your letter is too long, and quite unsuitable for our columns.

*Enquirer*.—F.R.C.S., signifies Fellow of the Royal College of Surgeons, and may refer to the London, Edinburgh, or Dublin Colleges. No one, either in the medical, legal, or clerical professions can use the title "Dr." unless possessed of an University degree conferring such title, as, for instance, M.D., LL.D., D.D., or D.C.L. Fellows, Members, and Licentiates of Colleges and Societies have no right to the title "Dr." though *shady* ones sometimes use it.

The following books, &c. have been received:—*Life and Mind*, or *The Basis of Modern Medicine*, by Robert Lewins, M.D. [Watts and Co.]; *The Voice*; *La Jeune Mère*.

All letters and other communications for the Editor should be addressed to him at the Publishing Office, and will be considered as private communications for himself. If for publication, they should be written legibly, and on one side of the sheet only.

Communications relating to subscriptions and advertisements should be addressed to the Publishers.

No notice will be taken of anonymous communications unless authenticated by the name and address of the author, which need not necessarily be published.

## NOTICE.

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## THE FAMILY DOCTOR.

## PROPERTIES AND USES OF WATER.

## ARTICLE II.

By HERBERT JUNIUS HARDWICK, M.D., F.R.C.S., M.R.C.P., &c., Hon. Physician to Sheffield and South Yorkshire Ear and Throat Hospital, and to Sheffield Public Hospital for Skin Diseases.

A plentiful supply of good water should be a *sine quid non* at all health resorts, without which there cannot possibly be enjoyment of good health, for water forms an important item in all the tissues of the body, even of the hardest and driest, muscle containing 70 per cent., the saliva in the mouth possessing 98.45 per cent., the gastric juice of the stomach 98.7 per cent., the gall 86 per cent., the juice of the pancreas, or sweetbread, 98.5 per cent., the intestinal fluid 97 per cent., chyle 90 per cent., lymph 96 per cent., milk 87.89 per cent., mucus 95 per cent., and perspiration 97 per cent. (Dr. Braun). A constant fluctuation takes place between the blood and the secretions, water being separated from the blood for the secretions and afterwards absorbed back again. Large quantities of water are also taken from the body by the lungs, skin, and kidneys, which necessitates a constant supply from without. It is by some people believed that the more water they drink, the more they will perspire, but this idea is not altogether correct, for warmth of temperature is absolutely necessary for perspiration, without which people will not perspire, no matter how much water they drink. Drinking is merely the process by which the continued supply of material is kept up for the diaphoresis produced by heat and muscular exertion. Thus in warm climates, where perspiration is carried on very profusely, it is most necessary for people to have a plentiful and good supply of water, and the health resort that cannot supply this valuable commodity must not calculate upon having very large patronage. The value of

water regularly applied to the skin cannot be over-estimated, especially in warm climates, and until the people give up their superstitious dread of this commodity, they need not expect to have a healthy condition of body.

The main object of hygienic ablutions and baths is the purification of the skin, which is rendered necessary on account of the accumulations which result from shedding of the outer skin and the secretions on the surface. Frequent cleansing of the skin from this accumulation favours free perspiration, thereby relieving the perspiratory glands of the skin, which, if not allowed to discharge their contents freely, become diseased. Men of sedentary lives particularly should bathe often, because there is less physical activity, and consequently less exhalation from the lungs, and, moreover, the glands of the skin are not relieved by the constant opening of the pores which takes place during perspiration in more vigorous people. Suppression of the function of the skin is not only liable to produce various diseased conditions in the skin itself, but also may bring about the most serious consequences in the lungs and kidneys by overtaking their energies.

It is obvious, then, that too much attention cannot be paid to the proper ablution of the body. In bathing, as in most other things, there is a right way and a wrong way—a way by which much benefit may be gained by submersion, and a way by which more harm than good is done. The following points ought to be remembered. The temperature of the human body is 98.5° F., and it does not require a great degree of cold to make itself felt on the surface of the body, although the water must reach as low as 32° F. to freeze the tissues, and 26.6° F. to freeze the blood. The tissues lose their warmth almost as quickly as water, but the blood resists even strong and protracted refrigeration. We must not, therefore, in regulating the temperature of the bath be guided altogether by the feelings, for the water may appear cold to the skin, when in reality it might with advantage be considerably colder in some cases. About 77° F. is considered by most people to be a cold bath, but some prefer it much colder, whilst others cannot take it even as cold as that. Very cold baths give first of all a sensation as if the blood were rushing to the head, the respiration becomes panting and very rapid, the skin gets sallow and hard, the pulse becomes contracted, small and hard, and the tissues rigid. In a few minutes these feelings disappear, after which the skin becomes warmer, until the surface of the body glows, the pulse gets full, large and regular, and a delicious sensation of strength and health pervades the frame. This goes on for about twenty minutes, when another chill comes on, and if the water be not left at this moment, loss of muscular power will suddenly take place, which may result

in drowning. Very hot baths produce firstly a general and pleasant tremor, which is soon followed by a great and general heat and a frequent pulse. In about half an hour the respiration is greatly accelerated and impeded, the mouth becomes dry, violent thirst supervenes, the face becomes dark-red and puffed, the eyes prominent and injected, tears flow freely, and the head is heavy and giddy. Sleepiness, and sometimes fainting or apoplexy follow.

Hot-water baths for purposes of ablution cannot be too strongly condemned; and yet hot-air baths are, for many reasons, often highly beneficial, and it is astonishing what a great amount of heat the body will bear for a short time in the surrounding temperature. The reason of this is that water being a far better conductor of heat than air, a warm-water bath is felt much more sensibly by the skin than air of the same degree of temperature. Vapour baths, although borne much better than hot-water baths, are for the same reason not borne so well as hot-air baths. They are commonly used for purposes of ablution, but more frequently they are employed medicinally, at a temperature of about 110°, especially in many scaly eruptions of the skin. Their action is to raise the temperature of the skin and thereby promote free perspiration. Hot-air baths differ from the vapour baths in that they do not interfere with the respiration, which is impeded in vapour baths owing to the moisture deposited in the bronchial tubes. No baths promote profuse perspiration so much as hot-air baths, and it is astonishing what a degree of heat the body will bear in the hottest room of the baths. The process consists in the patient sitting or lying naked in the tepidarium or first room, having a temperature of about 115° F., for about half an hour, when the perspiration beads from him in large drops; he then advances to the sudatorium or hot room, having a temperature of 188°, where he remains for another quarter of an hour, the perspiration now running freely down the skin. After this, some people go still further, into a very hot room, with a temperature of sometimes 160°, but this is quite unnecessary, and may be harmful. The next step is to enter the shampooing-room, where an attendant kneads all the muscles of the body, and then washes the patient down with soap and water, pouring water over him at a temperature of about 85°. The next part of the process consists of a shower bath, at first warm, and gradually becoming as cold as can be comfortably borne, after which the patient plunges into a well of water, which is situated between the tepidarium and the frigidarium or cool room, from which he emerges into the latter room, where he dries himself, and reclines on a couch in his berth to sip coffee and, if he likes, smoke a cigar, and gradually become cool, when he dresses and departs considerably refreshed. There are numerous other kinds of baths, such as peat-

baths, mud-baths, whey-baths, douche-baths, drop-baths, &c. in vogue chiefly at the various spas, which will be described further on.

Respecting the particular action of water when applied to the body externally, it was originally supposed that it was absorbed by the skin and carried into the blood, which view appeared to be corroborated from the fact that water was given off in perspiration. The fallacy of this exploded view will be at once apparent to all who will recollect that water is but a combination of two gases, oxygen and hydrogen, in the proportion of one part of the former to two parts of the latter, holding in solution various salts, &c., and that the gases would undoubtedly be more quickly absorbed in their separate states than when combined in a liquid form.

Taken internally, water supplies the fluid for the formation of the digestive juices, being absorbed far more quickly in an empty than in a full stomach, and when its temperature is almost equal to that of the blood; and for this reason medicinal waters are commonly taken between meals and also warm, so as to avoid the necessity for the equalisation of temperature which must precede the absorption of cold water. All water except distilled water contains a variety of salts, such as carbonate and sulphate of lime, soda and magnesia, iron, &c., in different proportions, which often add considerably to the value; and many waters also contain organic products of decomposition, which render them unfit for use in proportion to the quantity of organic admixtures contained. Those waters which contain large quantities of salt are often taken with the greatest benefit by invalids, the particular salts having a beneficial influence on particular affections. Thus gout and rheumatism are relieved by a course of that water which contains much soda. Many mineral waters may be known by their peculiar colour, the whitish appearance of certain springs being due to precipitates of carbonates of lime and magnesia, the bluish, milky or yellow appearance to the presence of sulphur, the reddish colour to iron, and the greenish hue to the deposit of sulphurets. It is only by a knowledge of the various constituents of particular waters and their chemical properties that we can understand their curative powers; and thus it is very necessary that we should carefully consider the relative proportions of these constituents met with in the different spa waters, so as the more correctly to understand their actions upon the human body in its manifold phases of disease.

One of the most important and interesting constituents of mineral water is carbonic acid, by which many salts are rendered soluble and the water more palatable and agreeable to the taste, and without which chalybeate waters will lose their iron and become heavy and unpalatable. There are numerous places in our own

country containing chalybeate springs, but the want of any carbonic acid renders them quite useless and unfit for curative purposes; whereas those spas which contain plenty of carbonic acid holding iron in solution have a wide notoriety and are patronised by visitors from distant parts. There are three states in which carbonic acid is found in mineral waters, firstly in a fixed state, when it is firmly united with certain bases forming carbonates, from which it cannot be separated even by heating; secondly, in a semi-fixed state in the form of sesqui- or bi-carbonates, from which a portion of the acid can be separated by heat or exposure to the atmosphere; and, thirdly, in a perfectly free state, when it will escape at the ordinary temperature as soon as the water rises out of the ground and the pressure to which it was subject whilst underground is removed. The quantity of carbonic acid in different waters varies considerably, ordinary spring water containing very little indeed, and river water but little more, while sea-water has a considerably larger quantity than either; none, however, containing any considerable amount when compared with the spa waters, where the quantity varies from 1 to 70 cubic inches in the pound, all such as contain 10 cubic inches or more being termed acidulous springs, and being generally found at the lower parts of mountain declivities or in the deepest valleys. The amount of carbonic acid found in mineral waters depends greatly on the hydrostatic pressure, one ounce of water at from 40° to 60° F. being able to absorb at the ordinary pressure of the atmosphere one grain of carbonic acid, and considerably more if the pressure be increased. So also the variations of atmospheric pressure have a considerable influence over the escape of carbonic acid from springs, less gas being liberated when the barometer rises and a great escape taking place when it falls, as, for instance, just before a storm, when the waters become more agitated than usual and considerably more refreshing. The temperature of the water also has a marked influence on the amount of carbonic acid contained, more being absorbed by cold than by hot springs. The principal alkaline carbonates and bi-carbonates found in mineral waters are those of soda, potash, lithia, lime, magnesia, strontia, baryta, iron and manganese.

Next in importance to carbonic acid comes sulphuretted hydrogen, which imparts a very disagreeable taste and smell to the water, and which is caused by the decomposition of certain sulphurets by hot water, a temperature of 111° being sufficient to set it free from a solution of sulphuret of calcium. This valuable gas is found in the water of artesian wells, together with other gases, and is never firmly fixed but easily decomposed if it comes in contact with the atmosphere, when its hydrogen combines with the oxygen,

causing a deposit of sulphur on the surface of the water, a portion of which deposit becomes oxidised, forming sulphurous and sulphuric acid. When organic matter is brought in contact with water containing sulphates, sulphuretted hydrogen is evolved, and this is the explanation of the fact that sulphurous springs are generally to be found in neighbourhoods of marshy ground, coal-beds, and bituminous rocks, where there are usually to be observed quantities of organic refuse. Water which contains one cubic inch of sulphuretted hydrogen or 0.42 grains of sulphur in the pound is considered to be a strong sulphurous spring.

There is very seldom to be found a fresh-water spring that has not a trace of common salt, *i.e.* chloride of sodium; and in northern Europe springs are found which contain so much salt as to be called brine springs. The enormous quantities that are kept in solution by sea-water is well known. In the Mediterranean and Adriatic seas the amount of common salt is supposed to vary from 171 grains in the pound, in the vicinity of Venice, to 280 grains in the pound near Messina; the Atlantic ocean contains from 191 to 215 grains per pound; the German ocean from 176 to 196 grains; the Baltic Sea from 89 to 95 grains; the Black Sea 107.6 grains; the Sea of Azoff 74 grains; and the Caspian Sea 27.6 grains.

It will be thus seen that the centre of the Mediterranean contains more salt than any of the other seas named, and this, together with the fact that it has hardly any tide, contains less free oxygen and more carbonic acid, and is much warmer than those parts of the Atlantic lying between the same latitudes, explains, to a great degree, the reason of the extraordinary mildness and equality of the climate on its shores. The chief cause of this great difference between the Mediterranean and those of the Atlantic is the existence of a submarine barrier of rock, extending from Cape Spartel to Cape Trafalgar, in the Gibraltar Straits, which reduces the depth of this portion of the sea to 167 fathoms, and, according to Dr. Carpenter, shuts off the cold polar current, which descends along the Atlantic coast of Spain and Portugal (Dr. C. T. Williams).

Hydrochloric acid is found fixed in some waters and free in the Dead Sea water; and chloride of magnesium, potassium, and iron are frequently found in springs; as also are iodine and bromine, in various combinations, the latter never occurring without the former. Sulphates are not so common as chlorides, but are found in large quantities in the bitter waters of Bohemia, those usually met with being sulphate of soda, potash, lime, magnesia, iron, alumina, and strontia. Silica is contained in the water of all springs in various combinations, as are also minute quantities of phosphoric acid. Other saline matters are also found in mineral spas, but are not of much practical importance.

The temperatures of the different mineral springs vary considerably, some being just above freezing-point, such as the Styx in Arcadia, the Castalian spring at Delphi, and the Irkutsk spring in Siberia, and others being at boiling heat, such as the Geysers in Iceland, and the Urijino in Japan. Between these extremes there are waters of every degree of temperature, those between 32° and 65° F. being usually in our climate considered cold springs, those between 65° and 77° cool springs, those between 77° and 88° tepid, those between 88° and 99° warm, and those between 99° and 212° hot. The varieties of climates, however, must be taken into consideration in estimating the temperature of springs, for a warm spring in one climate may be considered a cold one in a different climate. Thus a spring having a temperature of 84° will be called warm at Irkutsk and cold at most other places, and one of 40° will be considered warm at St. Petersburg, while one of 80° will be called cold at the equatorial regions. All springs are designated warm, or thermal, whose temperatures are higher than the mean annual temperature of the place in which they are situated, and cold if their temperatures are lower than that of the surrounding atmosphere.

#### SIMPLICITY, COMMON-SENSE, AND INTELLIGENT SUPERVISION IN SANITARY APPLIANCES.

By P. HINCKES BIRD, F.R.C.S., F.L.S., S.Sc.C.  
Cantab.; Norfolk Square, W.

(Continued from page 52.)

*Refuse Treatment.*—On the *bête noir* of Sanitary Reformers, the dustbin, it was long since remarked, that at least two-thirds of the ordinary contents of dustbins should be consumed in the kitchen fire\*—at present it forms a too convenient receptacle for all kinds of refuse matters, including kitchen *debris*, and so in a large number of instances these receptacles, especially in hot weather, become excessively foul, and an abominable nuisance. If you clean them, possibly your neighbour does not—close under parlour windows is the old familiar smell; while the big D, long and obtrusively displayed, is a letter the dustmen “don’t at all understand,” when inconvenient or a “dry job.” Now, contractors, instead of paying for it, require to be paid for its removal, to the great inflammation of the rates. All organic refuse should be burnt, and the rest, if possible, be removed daily—being placed early outside in a box or bucket, as is done in some provincial towns and continental cities, particularly in Paris. An admirable plan has lately been adopted at Leeds—the burning up the heterogeneous refuse collected by the

scavenging department of the Corporation. It is tumbled into the furnaces—pots and pans, crockery and earthenware, stones and brickbats, all going in—being either burnt up bodily or so purified as to be no longer offensive. No coal is used; the draught of air is so strong and the heat so fierce that the furnaces roar and blaze away, the material poured in at the top being sufficient to keep the “destructor” going. There are six furnaces or “cells.” These are regularly raked up by the men in charge, who pull out the masses of refuse. Amidst the burnt stuff are iron pots and pans, which are picked out, placed in a heap, and sold at 25s. a ton. Attached to the works are a couple of mills, driven by a fourteen-horse steam-engine, in which capital mortar is made. The slag which collects in the furnaces is ground into a fine sand and is utilised for the purpose. With the exception of the pots, pans, and tin canisters, everything is either burned or ground up on the works and made useful in some way. Above the furnaces are a couple of orifices, covered with iron, into which deceased animals can be put and their bodies be rapidly consumed. During the month of December last, more than 1,090 tons of refuse were thus disposed of.

*Isolation.*—Although in Leviticus (Chap. xv.) we find an officer of health endowed with absolute authority to separate the sick from the healthy, and also to isolate infected persons so completely as to prevent the disease from spreading further, and Shakespeare, who was great in sanitary matters as in all else, observes—

Pursue him to his house, and pluck him thence;  
Lest his infection, being of catching nature,  
Spread further.

*Coriolanus*, Act iii. sc. 1.

health resorts, although dependent for their material prosperity on a clean bill of health, hesitate to appoint a medical officer of health, and still keep the question of providing a building for isolation of infectious disease “under consideration,” *i.e.* to the Greek Kalends;—and one is tempted to ask why should not the system of immediate and compulsory isolation be adopted in the case of man as in that of animals,—and why should not an immediate stop be put to “waking” the body of those dead of typhoid, diphtheria, or scarlet fever—too often degenerating into a series of drunken orgies?

*Disinfectants.*—Common sense revolts at the idea of practising under the name of disinfection “some futile ceremony of vague chemical libations or powderings”; purification by fire, as its very derivation implies, is the most thorough, all the other expedients being of more or less dubious value; while one of the most testimonialised and advertised is reported to be “not so efficacious as slaked lime”; and according to the latest and most complete experiments, the inexpensive and old-fashioned chloride

\* *Hints on Drains, Traps, Closets, Sewer-Gas, and Sewage Disposal.* C. L. Marshall & Co., 188 Fleet Street.

of lime is far ahead of all the new-fangled, curiously named, patent and expensive antiseptics, "and there is no new thing under the sun." Carbolic acid, guilty of weekly poisonings, is not a disinfectant,—not a destroyer of organic matter, but rather an antiseptic—a preserver of organic matter. The American National Board in their report on disinfectants, with special reference to the yellow-fever epidemic, while strongly enforcing the need of fresh air and cleanliness, declare that the very old-fashioned remedy, described by ancient Homer, of fumigating with sulphur, is the only one suited to house disinfection. We find Ulysses, after killing the suitors, calling upon his old nurse Eurycleia to bring him sulphur and fire, that he might fumigate the palace—

οἷσε θέμιον; γῆρ', κακῶν ἄκος, οἷσε δέ μοι πῦρ,  
ὄφρα θεεύσω μέγαρον.

*Odyssey, Book xxii., 481-2.*

Bring me, O old woman, sulphur, the remedy for impurities, and bring me fire, that I may fumigate the palace.

Heat and sulphur, then, are after all much more efficacious than the testimonialised shilling bottles of disinfectants so freely offered to the public with Greek and Latin names; and we should ever bear in mind—

It is to cleanliness, ventilation and drainage, and the use of perfectly pure drinking water, that populations ought mainly to look for safety against nuisance and infection. Artificial disinfectants cannot properly supply the place of those essentials; for, except in a small and peculiar class of cases, they are of temporary or imperfect usefulness.—*Simon.*

Referring to social matters, I may quote: "It is a matter of regret" (*Lancet*, Aug. 2, 1879) "that health officers have lately seemed to lend themselves too much to companies and their schemes, the merits of which it is utterly impossible to have properly scrutinised," but surely even those who are appointed to large combined districts, and who are "expected to devote the whole of their time to the duties of the office," in the present precarious conditions of tenure and income, with no pension to look forward to the time

When service should in their old limbs lie lame  
And unregarded age in corners thrown,

should be wise in their generation in eking out insufficient remuneration by testimonialising, by advocating any new system of excreta disposal, wet or dry,—by inventing cinder-sifters, devising disinfectants, fabricating soaps, contriving filters, stoves, inhalers, &c. "*quocunque modo rem.*"

Our Premier has, I believe, to answer for the much-hackneyed motto, "*Sanitas sanitatum, omnio sanita,*" also that "Pure air, pure water, the inspection of unhealthy habitations, the adulteration of

food—these and many kindred matters may be legitimately dealt with by the Legislature. The first consideration of a Minister should be the health of the people." Good words—but how about the recent appointment of Registrar-General over the head of the greatest vital statistician in Europe, who, after forty years' service, tenders his resignation—his paramount claims for the office being disregarded and the post bestowed on one whose name is as yet entirely unknown to the country in connection with statistical science—and thus this important office of the State loses at one blow both its best men. Although the evils of overcrowding in wretched cottage tenements are well and forcibly depicted in *Sybil*, or *The Two Nations*—the nation of the rich and the poor—in 1845, the wretched sanitary conditions in which people live still obtain—intensified by a quarter of a century's neglect—yet somehow we manage to spend millions in civilising the Zulus and the Afghans. The appointment of a Minister of Public Health still very much looms in the distance—an officer far more important than the Minister of or for War—the one being destined to protect human life, the other to destroy it.

There is still a vast amount of private indifference to public health; many are the large country houses in which every principle of Sanitary science is set at defiance, and if well-to-do people will not take the trouble to spend the money to make their own houses wholesome, it is not likely they will be more liberal in either respect when the houses of the poor are concerned. The houses, then, of the better classes require inspection just as much as cottages—perhaps, more so, as in the latter the sanitary conveniences, if defective, so potent for evil, are very frequently placed out of doors, where defects are comparatively innocuous.

Even when the house is put in first-rate sanitary order—if such a state of things really exists—all the arrangements will require constant intelligent supervision. For instance, in a house—A 1 Sanitary Lloyds—repairs being required for the roof, the British workman, objecting to the smell from the soil pipe ventilator, stopped it up with a rag. When the job was finished this was forgotten. Not long after, typhoid fever broke out in the family; this led to universal and complete investigation, and the discovery of the cause of the mischief.

It is heartrending to the disinterested but powerless sanitarian to see good gravel and sand carted away and the excavation filled up with putrescent filth, on which rows and rows of "jerry" houses are built—bricks crumbling before use—mortar composed of a small quantity of lime mixed with street sweepings—the latter being largely made up of manure, this material being also used for the inside walls of the houses, which are so thin as to fail to exclude the heat in summer and the cold in winter,



and the consequent general inconvenience arising from frozen pipes and subsequent leakage from thaw. The officer of health, who had his attention called to the fact of the composition of the mortar, stated that he had no power to stop the practice, but would have to wait until a nuisance arose, which, he says, will happen very soon—another instance of careless and perfunctory sanitary legislation—as is also exemplified in reference to arsenical clothing, wall-papers, dresses, &c., poisonous paints and sweets. In the case of a house built not on maiden, but made soil, containing deleterious matters,—the impure air will be drawn into the house by the suction action of the warmer air of the interior. Home, sweet Home! Even in estates endeavouring “to secure, in erection of houses at moderate rents, good construction and attention to artistic effect, coupled with most complete sanitary arrangements, both in their drainage and perfect freedom from sewer gas,” most intense ugliness has been realised, and inattention to certain costless ventilation suggestions—dictated by common sense—which will also tell us that in usual wintry weather—with a dozen or so degrees of frost—open, unprotected soil pipes will require intelligent supervision to prevent the unpleasant results of obstruction.

Once, in passing a row of middle-class houses, I pointed out to the builder what a financial saving it would be if he would let the pipe, from the kitchen sink, open over the outside grid instead of conducting it trapless to the drain. He admitted the common sense of the suggestion, and promised it should be carried out; but months afterwards I found it had never been done, and drain-air was continuously laid on to the innocent and unsuspecting tenants. With a flourish of trumpets, and with the accompanying luncheon, a new plan of house ventilation has lately been lauded—a plan similar to that adopted at the House of Lords, without the important provision that the incoming air derived from—the worst possible place—the cellars and basement should be thoroughly purified and prepared.

Recently-built houses, with all the “modern improvements,” are usually far from being in a satisfactory condition. Leisure and curiosity have lately led me to inspect some of the magnificent mansions of the metropolis and health resorts in course of construction and embellishment. As a rule the decorations were garish and meretricious, many-coloured dados, hand-painted panels, entablatures fearfully and wonderfully made, gilded cornices and over-decorated ceilings abounded; but the sanitary arrangements were beneath contempt;—testifying to the ignorance, obstinacy, stupidity, or apathy of architects and builders, and to Carlyle’s well-known designation of the people of England—“mostly.” (Ps. xiv. 8).

In Salutland, that Utopia of frugivorous hybrids,—

O fortunatos nimium, sua si bona norint  
Agricolae, quibus ipsa, procul discordibus armis,  
Fundit humo facilem victum justissima tellus!—

men, in the absence of all excitement and eager emotion, may live in full vigour to a hundred, or may go on vegetating to one hundred and fifty years; but—

We live in deeds, not years; in thoughts, not breaths;  
In feelings, not in figures on a dial.  
We should count time by heart throbs. He most lives  
Who thinks most, feels the noblest, acts the best.  
Nations do not count their lives by days, but by deeds;  
by labour accomplished and by happiness achieved.

or, as Virgil remarked centuries before—

Stat sua cuique dies; breve et irreparabile tempus  
Omnibus est vitæ; sed famam extendere factis  
Hoc virtutis opus.

Longevity is not the only or the best test of the value of the things on which we live. It may be only a long old age, or a long course of years of idleness or dulness, useless alike to the individual and the race.—*Sir James Paget: Contemporary Review*, Nov. 1879.

In conclusion, where, it may be asked, are the evidences of any real advance whatever during the past half century? It has been remarked there has been much talk, a multitude of councillors, periodical alarms, spasmodic efforts, scientific congresses, sanitary conferences, a general awakening to a sense of something defective; but the tangible results have not been even commensurate with the growth of population. On the contrary, the mischiefs of overcrowding, and the accumulations of a generation, have outstripped the tentative measures of sanitary reformers, and left them panting, halting and discouraged in the race far behind. Our byeways may be cleaner, and the atmosphere of some towns purer; yet this has been gained at the expense of others to whom we have transferred the nuisance, changing only the venue without abating the evil.

The remarks by Lord Derby, at Liverpool, still apply:—“No sanitary improvement worth the name will be effected, whatever Acts you pass, or whatever powers you confer on public officers, unless you can create a real and intelligent interest in the matter among the people at large. . . . Whatever administrative measures can do for public health—and they can do a great deal—they can never supersede the necessity for personal and private care. . . . The State may issue directions, municipal authorities may execute them to the best of their power, inspectors may travel about, medical authorities may draw up reports, but you can’t make a population cleanly or healthy against their will, or without their intelligent co-operation. The opportunity may be furnished by others, but the work must be done by themselves. This is why, of the two, sanitary instruction is even more essential than sanitary legislation.”

# CONSUMPTION: ITS CAUSES, SYMPTOMS, AND SUCCESSFUL TREATMENT.

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OF all diseases afflicting the human frame, I imagine there is not one to which greater importance can be attached than consumption, standing, as it does, far beyond all others in respect to the victims it claims every year. In all ages it has been the giant foe of life. It spares neither age nor sex; it attacks the infant at the breast, it blights the ruddy hue of youth; and adults, at the very time when their greatest energies are called upon (maybe, to support a family) are liable to its withering influence. It invades the domestic circle, the haunts of business, and the paths of pleasure. The light-haired, blue-eyed, fair-complexioned person with high hopes and elastic spirits; the dark, thoughtful, ambitious man; every variety of temperament is exposed to its consuming power. Insidious in its commencement, and fatal in its termination, it extends its ravages to every climate. Whole families springing up in joy and hopefulness, the elder members, full of strength and confidence, pass the age of puberty and are then struck down; others follow in the fatal wake, until the remaining members are dejected and timorous, seeing death in every shower and in every wind that blows.

But the tables of mortality, awfully real as they are, do not give us a thorough insight into the terrible devastation produced by this disease. Many a sufferer from some ordinary disease would recover his wonted health did not consumption supervene, and thus destroy the hope of recovery.

As this article will probably be read by those who feel some direct interest in the questions of which it treats, I shall endeavour (avoiding as much as possible all technicalities) to lay before the reader a specific plan of treatment by which consumption up to a certain stage can always be cured, and by which it can *very frequently* be cured after that stage has been passed. But let it be clearly understood I do not, in stating this, wish to infer that the treatment is *infallible* for the cure of consumption; such a notion would be erroneous. What I do state is this; that, by a close adherence to the plan of treatment I shall lay down, hundreds of cases which had been deemed hopeless have recovered and are now well, and in others the disease in its first stage has been arrested and ultimately eradicated. These *facts* speak for themselves.

Now "Prevention is better than cure," and I shall first endeavour to describe the principal *causes* of consumption, especially those over which we all have more or less control, and of these causes I think *cold* ranks first. If after having damp feet, or being exposed to a draught of air, or sleeping in a

damp bed, or being insufficiently clothed, we experience a sense of chilliness, followed by oppression, we have "taken cold." It may be slight and speedily pass away without treatment of any kind, or it may be more severe, and lead on to inflammation. Much of its seriousness depends upon the organ attacked; and we distinguish colds by noting this fact. Thus influenza is commonly called "a cold in the head"; catarrh—a cold in the nose; quinsy—a cold in the throat; bronchitis—a cold in the chest. The commonest of all these attacks is the ordinary catarrh, which usually manifests itself by a sense of stuffiness in the nose, which in severe cases amounts almost to complete closure; this is caused by the mucous membrane swelling and so occluding the passage. Although this affection is very common, scarcely a person going through the year without an attack, yet it is the least regarded, very few deeming it necessary to adopt any treatment for its removal, the result being that the simple catarrh, from being left to itself, gradually assumes a *chronic* form; and now, although the breathing through the nose may be easier, the membrane is still thickened and congested, and a yellowish discharge of mucus takes place, which the patient relieves himself of, from time to time during the day. A false membrane may also form in the nostrils, which the patient removes, frequently causing bleeding; or the secretion may become thin, and drop into the throat. The smell becomes affected, in some instances being entirely lost. Catarrh affects persons of all ages, and those suffering from it are excessively liable to take severe cold on the slightest exposure. Influenza is catarrh of the frontal sinuses, the mucous membrane being affected, producing headache, and those distressing symptoms over the forehead so well known to all of us.

Ezema is simply a very bad chronic form of catarrh of the nose, occurring principally in scrofulous constitutions. It is a most serious affection, demanding careful treatment. Unfortunately these affections are almost invariably treated with neglect, until they produce some decided symptom which points to consumption or some other serious affection of the lungs. Its course can gradually be traced by an irritated throat, causing a husky voice when singing or reading aloud, ending in a thickening of the mucous membrane which lines the bronchial tubes; when this has taken place, tubercles are deposited, and we get ulceration of the lungs and all the terrible train of symptoms involved in consumption.

Now all this can be averted very easily if taken at an early stage and properly treated, although till recently little or nothing was done. The nose should be syringed with tepid water containing a slight astringent such as alum or tannic acid twice a day, care being taken to use a bent nose-syringe, the

ordinary straight one being ineffectual, and so frequently resulting in disappointment. The bowels should be kept in perfect order, and the diet carefully attended to, so that no irritation of the stomach may arise as a complication. In more chronic cases vapours may be sniffed up the nostrils: this can be done even by a child, and is best effected by using a sand bath over a spirit lamp, and dropping a solution of tannic acid and Eau de Cologne, or any other medication that is needed, into a small earthenware vessel placed in the centre. The head being held over the bath, the vapour is given off and received into the nostrils, causing no pain or inconvenience. If properly applied, the combination of these two remedies rarely, if ever, fails in producing the desired end.

We will now consider the question of hereditary transmission. There is no idea so firmly fixed in the public mind, and yet so erroneous, as that "consumption is almost invariably transmitted from the parents." Such an idea, I say, is quite at variance with facts. Such, however, is the strength of this belief, that the majority of cases which come to me for examination positively assert they can have no actual disease of the lungs as their parents were not similarly affected. Now I wish my readers to disabuse their minds of this idea, for, having carefully investigated this matter, I find that out of every thousand cases treated, not more than twenty in a hundred have had parents who suffered from chest disease; and I believe many hundreds of people annually lose their lives, entirely because they consider it impossible that *their* lungs can be diseased, as neither their parents nor relations have suffered in a similar manner. The cough is neglected, other symptoms are put down to false causes, until the lung has become the seat of tubercle, and in many instances their error is only discovered when it is too late.

Now as I have just stated, eighty cases out of a hundred become affected with consumption from some other cause than that of hereditary transmission (and this average I have obtained upon a close study of over 18,000 cases). You will doubtless exclaim, "Oh! but I *myself* have known instances in which whole families have perished from the disease!" Perfectly correct; and so have I. I do not deny the hereditary taint, but I wish to make plain the fact that *too great importance* has been attached to this cause of consumption; and again, admitted that several members of one family die of the same disease, what does it prove? Nothing! except that some families are more liable to the disease than others. Now I argue that it is impossible for a mother to transmit to *her* child that which she herself *does not possess*. A child may be born with small-pox, or any other disease, but the mother *must* have had the same, and so with consumption. I

admit many children are born with weak constitutions, deformities of the chest and other physical peculiarities, which *predispose* them to this disease, but there is all the difference between predisposition and inheritance. Everyone of us, if we are born with a diminished capacity of the chest or any affection of the mucous membrane, may be said to be predisposed to consumption; but by paying proper attention to the physical training of a child, and by employing judicious means to enlarge the capacity of the chest, I have seen many children who had every *predisposition*, become quite strong and well. I therefore maintain, *no one* ever had or ever will have any inherited disease which their mother had not at the time of their birth.

Having said this much, we will proceed to other causes, taking them in the following order:—Malformation of the bones of the chest, trades which cramp and confine the movements of the chest and restrict the free use of the limbs, callings which are followed in close ill-ventilated rooms, trades which produce a direct irritation of the lung tissue, deficient clothing and errors in dress, weakening discharges, mercurial salivation, too long continuance of suckling, depressing passions, inflammation and congestion of the lung, climate and moisture.

*Malformation of the bones of the chest.*—Under this head I include an abnormally small chest. Whoever has a small chest has an increased liability to consumption. Children who are thus affected are always delicate in their youth. They are unable to walk or run as far as their playfellows; they lack muscular vigour, and are unable to lift as heavy a weight, or endure as much physical exertion, as boys of their own age; yet apart from this they may seem to be perfectly healthy. The age of puberty arrives, and still no sign of disease, until suddenly there is evidence of failing strength, and one after another they succumb to the fatal clutch of consumption. The reader will naturally ask, Why is this? Because when youth emerges into manhood or womanhood, there is a greater increase in the size of the body, as also in the quantity of blood required to nourish it; to sufficiently oxygenate this blood a corresponding addition in the quantity of air is required to be received into the lungs at each inspiration. The lungs being abnormally small, this is impossible; and what is the result? The blood, from a deficiency of oxygen, becomes impure, tubercles are formed and deposited in the lung tissue, and the train of symptoms induced by consumption follow. Now if due attention were paid by parents to children suffering from small or deformed chests, in the majority of instances the disease would be avoided, for, as I have before stated, cases have come under my own observation where such has been the result. Such children should have *regular* exercise in the open air. The mind

and body should be kept amused. Horse and carriage exercise, rowing, walking, gymnastics, &c. may be indulged in to a certain extent, that extent being determinable by circumstances, such as the state of health, strength, habit, &c. Of these means for *young* persons I think *walking* is the most beneficial, as it guarantees a uniform and regular exercise of the muscles and joints, and it promotes a free circulation. To expand the chest, the arms and shoulders should be thrown back whilst standing, and then, when in this position, as much air as possible should be *slowly inhaled*. This exercise should be practised for about five minutes every day, gradually increasing it. At first the inhalation will be small, but it will gradually increase, thus proving greater capacity of the lung. It is surprising the benefit this produces, which is proved by *carefully* measuring the chest at regular intervals, and in the majority of instances an increase in size will be the result.

Actual deformities of the chest, such as "pigeon-breast," may also be completely cured by careful treatment, provided it be adopted at a sufficiently early period (that is, before the cartilages of the ribs are ossified). Pressure should be applied by the hands, one on the projecting breast-bone and the other between the shoulder-blades; the pressure must be firm but gentle. The patient now takes five or six deep *inspirations*, during which time the pressure is gradually increased. If this simple method be followed out twice a day, it is surprising the change that may be effected in one or two months. It will therefore be seen that this cause of consumption can, by careful treatment, be overcome.

*Trades which cramp and confine the movements of the chest.*—In these cases we have an *induced* abnormality. It matters not how large and well-formed the chest, or how healthy the lungs, if by some habitual posture of the body we cramp and confine the movements of the chest, and so prevent their normal expansion at each inspiration; they must sooner or later become diseased in consequence. As I have already stated, the purity of the blood depends upon the quantity of air taken into the lungs. When, therefore, by cramping the chest an insufficient quantity of oxygen is received to remove the carbon, tubercles sooner or later develop; and wherever we find persons following a sedentary life, demanding a cramped position of the body, there we may certainly expect a prevalence of consumption. This is exemplified in the cases of persons who follow such avocations as shoemakers, tailors, milliners, printers, lace-makers, jewellers, clerks, &c., where a continued and cramped position of the body is demanded. There can be no doubt that many of the cases of consumption imagined to be caused by some general local influence, are in reality produced by these

causes. Now to what a vast number of individuals these remarks refer, especially in large cities; and its importance cannot be over-estimated, as the fatal tendency has so often been overlooked, and it may to a considerable extent be overcome by the adoption of those means I have just pointed out.

*Callings which are followed in close ill-ventilated rooms.*—It is essential to health that the air we breathe should not only be sufficient in quantity, but that it should be pure; for a constant supply of pure air is indispensable to the arterialisation or preparation of the blood in the lungs, and consequently to the preservation of life. No matter how lofty and large the workshops are, if occupied by a number of people, the air speedily becomes foul, and consequently unfit for breathing, unless a continuous stream of fresh air be allowed to pass through it. Those, therefore, who are exposed to this enervating influence are rendered liable to consumption. To render this plain to the reader it is necessary to premise that atmospheric air is composed of two gases in certain proportions, namely, oxygen as 22 and nitrogen as 78 parts in 100, with the addition of a minute portion of carbonic acid. Now atmospheric air when *inspired* consists of these component parts; but after it has passed through the lungs it is *expired* in a very different state, for on reaching the lungs nearly two-fifths of the oxygen enter into combination with the venous blood, the remaining three-fifths being exhaled with the nitrogen, which remains nearly the same as it was originally. Now, in place of the oxygen (which has been consumed) there is *expired* an equal quantity of carbonic acid gas, which has been generated in the system; and when this gas exists in a room in larger proportions than is proper, the atmosphere is poisoned by it and so rendered unfit to be again breathed. Now a healthy adult respires (that is, breathes) from fourteen to eighteen times in every minute, and in each *inspiration* from twenty to thirty-five cubic inches of air is taken in. It will therefore be seen what a quantity is used during twenty-four hours; and when it is remembered that upwards of three per cent. of carbonic acid often exists in the atmosphere of our London theatres, crowded offices and workshops, in which a constant renewal of fresh air is more than ever demanded on account of their being almost universally lighted by gas, one burner of which will consume an enormous quantity of oxygen and give out a large amount of carbonic acid, the reader will see that every breath drawn *must* be detrimental to health. Too little regard has been paid to this subject, the result being that hundreds annually fall victims to disease, having in many instances to work twelve or fourteen hours in a wretched room with little or no ventilation, until the face gradually becomes sunken, the robust figure wastes, and other symptoms tell the tale that this

dreaded enemy has seized another victim; and as long as misery and filth exist, so long will also the ravages of this disease.

Now every room occupied by human beings should be so constructed that there may be egress for the foul air and ingress for a steady stream of pure air; otherwise the blood becomes carbonaceous, and, the laws of health being disregarded, the penalty is paid.

By comparing the effect of outdoor and indoor occupations in producing this disease, I have found double the number of deaths from consumption in persons who follow their avocations in rooms and workshops; and even this average is increased as the workrooms become smaller and still worse ventilated. Here, then, is another cause of consumption which can be prevented.

(To be continued.)

### THE UNITY OF POISON IN DISEASE.

By G. DE GORREQUER GRIFFITH, L.R.C.P., Senior Physician to the Hospital for Women and Children, London.

JUST now men's minds are being agitated by what occurred recently at Bagshott Park in the case of the Duchess of Connaught. It seems that ever since the house has been tenanted the inmates have been suffering from illness—not always the same—different individuals being affected in different ways. This leads me to the subject which I opened up some years ago, and which was then not received very favourably, but to which more attention has been paid, and is being now daily directed, chiefly because the facts are incontestable, and having been pointed out, can be more clearly noted by careful observers. I refer to the "Unity of Poison in Disease." By "Unity" I mean not that the poison is always the same, but that the same poison—the one *origo mali* whatever it may be—will originate several so-called different diseases. For instance, one *origo mali*—one poison—will give to different individuals scarlatina, typhoid, diphtheria, erysipelas, sore throats, diarrhoea, sickness, headaches, general malaise, pneumonia (inflammation of the lungs), pleurisy, and inflammation of the other serous membranes of the head, chest, and body, ulcerative endocarditis I believe also, and a vast number of other orthodoxically termed distinct and specific diseases: while in the lying-in patient will be set up that dread malady termed puerperal fever, and in her new-born infant fits, erysipelas, ophthalmia neonatorum and other earliest infantile complaints. Or the lying-in patient in whom is generated primarily puerperal fever contagium will be the means of setting up in another lying-in woman puerperal fever in its worst type,

while in others milder forms may prevail, and in other puerperals again peritonitis, or some affection such as pleurisy, pneumonia, rheumatism (acute), or any of the affections referred to above—not being peculiar to the lying-in state: other members of the same family, not being maternity patients, being attacked with one or other of the affections I have cited above, or with more than one, such affections not being peculiar to the puerperal state, but to which the individuals, according to the cycle of age in disease, would be liable. Here I would name that *I should not call them different affections*, but the varied and varying expressions of the working in the blood and tissues of the body generally of the one poison—the outward and visible signs of the inward evolutions—the extended and extending working of the poison, that poison being one and the same—*originally introduced*, or *wrought in the person's self* by chemico-physiological changes such as all scientific men will tell you are daily being generated in health as well as in disease. We have then unity of poison, differentiation of resulting phenomena—symptoms—such differentiation being dependent upon, not a diversity of poison, but a diversity of expression of the action of the poison dependent upon the pabulum or food afforded the poison agent (whatever it may be) and the idiosyncrasies of the patients, their habits, surroundings, and numerous circumstances connected with them of which we cannot even take account. Let me illustrate this by the effects of one drug familiar to many of my readers. It is iodide of potassium. "Surely," said a medical man with whom I was conversing on this subject, "surely you could not have small-pox generated from the same contagium or contagium influences as measles?" "Allow for the cycles of disease dependent upon time of life, and," I replied, "I see no difficulty, though I cannot yet prove it, and I may not live long enough to be able; but I will give you an example of unity of poison differentiation and multiplicity of action, wherein a series of evolutions or developments of the working of the one source which set the working agoing runs a remarkably varying course—measles, vesiculæ, pustulæ—and I think in the effects of the administration of iodide of potassium I can give you the very illustration you require of me. Mark its course:—Congested nose and eyes, coryza or cold in the head, measles-rash, *i.e.* papules; cough, dry and measles-like, from irritation of membrane of the lungs; sore throat, constipated bowels, &c.—(but I want chiefly to direct attention to the skin demonstration, viz. to the rashes developed one after the other)—vesicular eruption, pustular rash, with all there being febrile disturbance, and as the drug is pushed head and back symptoms becoming very severe. Surely here are the very transition stages from measles to small-pox! And if in such a tangible agent as iodide of potassium we can see

these evolutions and workings, we cannot blind ourselves to the fact that an intangible agent—which we now see in a glass darkly—such as contagium, can in one patient (the child cycle of age) set up measles, or some child pox; while in the adult, *unprotected* by vaccination, small-pox is developed, in the protected a different kind of rash declaring itself. In the case of the iodide of potassium, there is plainly seen unity of poison, differentiation of resulting action. Hence I argue, if iodide of potassium produces such a chain of symptoms, which seen at different times or in different persons would lead to the idea that the symptoms were distinct affections *having for their origin diverse poisons, not one and the same*, why cannot another poison, viz. that (whatever it be) which induces rubeola, in a different dose, or continuous doses in different individuals, or the same individual at different periods of life (cycle of age in disease) and under different circumstances, produce vaccinia, varicella and variola?

(To be continued.)

**AIR-HEATING.**—A paper read at the last Sanitary Congress at Vienna, by Professor Fischer, dealt with the general question of heating by means of warm air, for which system the advantage is claimed of a wider range of temperature than is attained by the steam or hot-water systems. In his refutation of several objections commonly urged against the system, the Professor formulated the general theory that a large supply of air at a moderate degree of heat is more efficacious in its action, and presents less sanitary disadvantages than a smaller quantity at a relatively higher temperature. Professor Fodor, in the subsequent discussion, pointed out the fact that the process of air-heating does not diminish the quantity of moisture in the air thus treated. He confirmed Professor Fischer's disapproval of too high a temperature. The smallest particles of dust become under such circumstances the source of irritation to the respiratory organs. In connection with the latter subject, the necessity of keeping clean the pipes and heating apparatus in general was commented upon. Amongst the advantages claimed by Professor Fodor for the system of air-heating are the facilities it affords for controlling the purity of the air, and for being used in conjunction with perfect ventilating appliances.—*Sanitary Record*.

**FROZEN MEAT AND FISH.**—There can be no longer any doubt as to the possibility of bringing supplies of meat and fish to this country in a frozen state and landing them in a condition fit for food. It is much to be regretted that our reliance on external sources of supply for the needs of the population increases so rapidly as it does. It is impossible to avoid the feeling that, in respect to fish at least, we are throwing away the supplies nature offers us in

the most freehanded fashion, and at the same time taking infinite pains to procure precisely the same things elsewhere. The price of butcher's meat is scandalously high, but it is kept above the true commercial level for the benefit of a trade which flourishes apace. If the fish taken, or which it would be easy to take, off these islands, were quickly landed and properly sold, not only would this particular article of food be placed within the reach of the poor, but the competition with butcher's meat would be so great that the prices of the latter article must at once be reduced. By such measures as Parliament and the Metropolitan Board of Works could readily institute, within the next six months the average price of fish of the ordinary sorts would be reduced to fivepence a pound retail, and meat would then again fall to eightpence or ninepence. The "policy" which should bring about these results would be a policy of health.—*Lancet*.

**UNWHOLESOME SAUSAGES.**—A pork-butcher named Walters has been summoned before the Kingston magistrates, and fined £20, for exposing for sale meat unwholesome and unfit for human food. A number of pieces of ulcerated beef were found lying on the board where his men were engaged in making sausages; and Mr. Shircliff, the medical officer of health, was shown a leg of beef infiltrated with pus, the tissues in the neighbourhood of the joints being quite disorganised. A lad in Walters's employ owned to having cut up some of this meat for sausages, and he had not been told not to use any portion of it. An attempt was made, on the part of the defendant, to show that the condition was due to *post mortem* changes. It was, however, shown that the meat, when it was seized, had been only four days killed; and the medical testimony proved that its condition was due to disease, and not mere decomposition. It is bad enough when unsound meat is exposed for sale on the counter; but then, at least, purchasers can see what they are buying. But manufacturing it into sausages, it appears to us, is a much more insidious offence, and deserves a severer punishment. The highest fine that can be inflicted under the 117th clause of the Public Health Act is a bagatelle to those whose profits must be at least cent. per cent. on the outlay. But for information given the authorities by one of Walters's own *employés*, this seizure would never have been effected, and there might have been another of those mysterious cases of wholesale poisoning by sausages, which from time to time go the round of the papers.—*Brit. Med. Journ.*

## REVIEWS.

*Bell's Standard Elocutionist*, by David Charles Bell, Professor of Elocution and English Literature at Dublin, and Alexander Melville Bell, late Lecturer

on Elocution in University College, London (Hodder and Stoughton).—This volume consists of selections and adaptations from ancient and modern authors, chosen with special reference to their practical value as elocutionary exercises, together with most elaborate instructions regarding the position of the body, the hand, the arm, &c. in speaking, illustrated by diagrams, and accompanied by a description of the proper mode of taking breath during speaking, the organs of articulation, the elements of pronunciation, and the manner in which the voice may be modulated and made expressive. The exercises are well chosen, and the whole reflects great credit on the author, whose great knowledge of the subject is evidenced in every page. Those who aspire to become public speakers ought certainly to read this very useful and complete book.

*The Spas of Europe*, by Julius Althus, M.D., M.R.C.P. (Trübner & Co.).—Dr. Althus has, in our opinion, produced one of the best treatises on this subject that we have seen. The book before us is a most carefully composed comparison of the various mineral waters of Europe, preceded by a very interesting sketch of the origin of springs and the physical properties of mineral waters generally. The author is evidently quite at home with his subject, judging from the numerous tables showing the quantities of the different solid and gaseous constituents of the various mineral waters met with, and has given a particularly interesting description of the effects of hot and cold baths, as observed by himself and others, which should be read and pondered over by those who are in the habit of indulging freely in those commodities. The book undoubtedly must rank with the very best on the subject.

*The Medical Adviser in Life Assurance*, by Edward Henry Sieveking, M.D., F.R.C.P., Physician to St. Mary's Hospital, and Physician Extraordinary to H.M. the Queen and H.R.H. the Prince of Wales (J. and A. Churchill).—This book, which has reached its second edition, is, without doubt, remarkably interesting and useful. One naturally expects something good from the pen of the author, but we confess we did not anticipate such a surprise as we have had in reading Dr. Sieveking's production. The best we can say of it to our readers is, "Read it for yourself," and we are confident there will be no disappointment, as it is equally serviceable to the laity as to the profession. Insuring one's life against emergencies has become one of the plain duties of the citizen, and nowhere is this truth better brought out than in the work before us; and we sincerely hope that a perusal of its contents may lead many a thoughtless and careless man to reconsider his position and avail himself of the advantages offered by insurance.

**PONDS' EXTRACT.**—A remedy which has recently come under our notice, and which, on account of its very valuable properties, deserves more than mere mention, is *Ponds' Extract of Hamamelis Virginica*. It is a strong styptic, and applied externally has the power of stopping bleeding and subduing pain and inflammation, which sufficiently indicates its usefulness in cases of burns, cuts, bruises, as well as in rheumatic and neuralgic affections. Its greatest value, however, is in the treatment of Hemorrhoids (Piles) where its action is very marked, when used as a lotion or injection. Eminent physicians state that they have found no remedy so immediately and certainly efficacious in this troublesome complaint.

### CORRESPONDENCE.

To the Editor of THE FAMILY DOCTOR.

SIR.—Allow me to state, in reference to the letter in your last issue from "Draper," that it is not right to have any direct connexion between the sink-pipe and the main sewer, whether trapped or not, and any medical officer of health who permits such a thing ought to know better. Such a condition should be at once reported to the sanitary authorities.

I am, Sir, yours obediently,  
A MEDICAL OFFICER OF HEALTH.

**Reader.**—No physician can legally claim his fee for attendance unless he be registered under the Medical Act, but he may practice if he can show that he has properly obtained a medical diploma. In the latter case he must run the risk of losing his fees occasionally.

**Provident.**—Provident Dispensaries are institutions where people may pay so much per week and receive free attendance when they are ill. Such institutions, if under proper management, with a committee properly constituted, are very useful; but we are afraid the large majority of them are private concerns, for the exclusive benefit of the medical officer.

**M.D.**—The London Small-pox Hospital was founded 1746.

**Lady.**—We fear we cannot help you. Consult a solicitor.

**Erratum.**—In Dr. Hardwicke's article on *Treatment of Disease by Climate* in our last issue, the mean temperature at the equator was wrongly stated to be 40° F. instead of 80° F.

**Clericus** has omitted to enclose his card

The following books, &c. have been received:—*The Medical Adviser in Life Assurance*, by Edward Henry Sieveking, M.D. (Churchill); *What to do in Cases of Poisoning*, by William Murrell, M.D. (H. K. Lewis); *The Truth about Opium*, by William H. Brereton (W. H. Allen & Co.); *The Idiot: His Place in Creation and his Claims on Society* (Jarrold & Sons); *A Visit to Madeira*, by Dennis Embleton, M.D. (J. & A. Churchill); *The Young Doctor's Future, or, What shall be my Practice?* by E. Driver, M.D. (Smith, Elder & Co.); *Handbook of Dosimetric Therapeutics*, by H. A. Allbutt, M.R.C.P. (David Bogue); *Quack Doctors and their Doings*, by James S. Garrard (John Heywood, London); *The Bath Thermal Waters*, by John Kent Spender, M.D. (Lewis & Son, Bath); *La Jeune Mère*; *The Voice*.

All letters and other communications for the Editor should be addressed to him at the Publishing Office, and will be considered as private communications for himself. If for publication, they should be written legibly, and on one side of the sheet only.

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No notice will be taken of anonymous communications unless authenticated by the name and address of the author, which need not necessarily be published.



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## THE FAMILY DOCTOR.

## MINERAL WATERS AND SPA LIFE.

## ARTICLE III.

By HERBERT JUNIUS HARDWICKE, M.D., F.R.C.S., M.R.C.P., &c., Hon. Physician to Sheffield and South Yorkshire Ear and Throat Hospital, and to Sheffield Public Hospital for Skin Diseases.

MINERAL waters may be divided into the following—

*Alkaline Acidulous or Simple Alkaline Springs*, containing chiefly carbonic acid and bicarbonate of soda, have an agreeable taste if the quantity of carbonic acid is in excess of the amount of saline matters; but if the reverse is the case, they are very unpalatable. Taken internally, they act as stimulants to the stomach, increasing the appetite, and rendering the urine alkaline. They are used in gout and rheumatism, also in acid dyspepsia and uric acid gravel. Used as baths, they are said to render the urine less acid, but it is questionable whether these, or any other medicated waters, have any more effect externally applied to the body than that produced by ordinary water, except in so far as the skin becomes irritated according to the quantity of saline ingredients contained in the water. The following are some of the spas belonging to this class—Vichy, Vals, Bilin, Soultzmatt, and Neuenahr.

*Alkaline Muriated Acidulous Springs* contain chiefly carbonic acid, chloride of sodium, and bicarbonate of soda. They are similar to the preceding, except that they contain in addition a quantity of common salt. Taken internally, they render the urine alkaline, and cause the bowels to act freely, besides promoting free perspiration, and are used in gout and dyspepsia, hysteria, and kidney and liver affections. They should not be taken too freely, or sleeplessness and dizziness may supervene. The following spas belong to this class—Ems, Royat, Selters, Vic-sur-Cère, La Bourboule, St. Nectaire, and Gleichenberg.

*Alkaline Saline Springs* contain chiefly bicarbonate and sulphate of soda, taste somewhat like weak

mutton-broth, and produce, when taken internally first of all a feeling of headache and drowsiness, and often diarrhoea also; the stools become black, the appetite is stimulated, and perspiration is induced. They are useful in habitual constipation, liver congestions, gout, and dyspepsia. Skin eruptions are sometimes brought out by too free use of these waters. The following spas belong to this class:—Karlsbad, Marienbad, Franzensbad, Elster, and Tarasp.

*Bitter Water Springs* contain chiefly sulphates of soda and magnesia, and are purgative and diuretic in their action, operating sharply on the bowels, and causing a good flow of urine and elimination of urea, but exciting great disturbance in the digestive organs when the sulphates are the only salines contained in the water. On this account, such bitter waters as contain other saline ingredients, such as common salt, in conjunction with the sulphates, are to be preferred. The best known spas belonging to this class are Püllna, Salschütz, Seidlitz, Ofen (Hunyadi-János), Birmenstorf, Friedrichshall, Ashby-de-la-Zouch, and Epsom.

*Simple Muriated or Muriated Saline Springs* contain chiefly a small quantity of common salt, and have therefore some therapeutic value. They increase the appetite slightly, act moderately on the liver, and are mildly purgative. They have a reputation for benefiting cases of gout, rheumatism, scrofula, dyspepsia, constipation and liver congestion. The chief thermal spas of this class are Wiesbaden, Baden-Baden (which also contains lithium) Monte Catini, Nauheim, Cannstadt. The chief cold ones are Kissingen, Homburg, Cheltenham, Leamington, Kronthal, Niederbronn, Pyrmont, and Dürkheim.

*Iodo-Bromated Muriated Springs* contain iodide and bromide of sodium and magnesium, and are used principally in cases of scrofula. Taken internally, they increase the secretion of the saliva and the appetite, and stimulate the mucous membranes generally. The spas belonging to this class are Krankenheil, Saxon, Challes, Heilbronn (Adelheid's Quelle), Münster-am-Stein, Kreuznach, Hall, Castrocaro, Wildeg, Elmen, Woodhall Spa, and others.

*Brine Springs* (such as Rehme) contain a large quantity of chloride of sodium, and are seldom taken internally, but as baths are extensively used. Thermal brine or sool-baths cause an increased excretion of urine and urea, but a decreased elimination of phosphate of lime. The loss of body-weight is not so great as after fresh water-baths. Taken for some time regularly, they prove nutritious, and increase the weight of the body, besides bracing up the nervous and muscular systems. These waters when used for bathing are said also to compose the mind, act on the bowels, increase the appetite, strengthen sexual desire, and expand the chest.

Cold brine baths and especially sea-baths, are very beneficial. The sea-baths, owing to the low temperature of the water, the shock of the waves, and the sea-air, exert a very beneficial influence on the system, increasing the perspiration and excretion of urine, diminishing the elimination of chloride of sodium and phosphates, and increasing the weight of the body. Immediately after a sea-bath the patient feels brisker, and his appetite increases; the bowels soon act and the pulse is stronger and quicker than previously.

In diseases, where the outer skin of the body is either deficient in quantity or thickness, or covered with morbid deposits, or in a state of irritation from any cause, as in Psoriasis (lepra) and Eczema, sool-baths are contra-indicated, as, of course, are also ordinary sea-baths, whose effects are similar. Many natural sool-baths exist in various parts of Europe, and artificial ones may be very easily made by adding common salt and other chlorines to the water, in the proportion of about 2 or 3 per cent., or rather more. Another means of applying salt water to the skin is what is called *arenation*, a favourite mode of the Ischians, which consists in covering the body with the sand of the sea-shore, in the following manner:—A hollow, like a grave, is dug out of the sands, in which the patient lies, exposed to the sun's rays, and covered over, except his head, with a depth of about a foot of sand. This process stimulates the skin, causing free perspiration and excitement of the vessels and nerves of the surface of the body.

*Earthy springs* are usually thermal and contain carbonate and sulphate of lime, and chloride of calcium. They promote digestion, act on the kidneys, and, if taken in excess, cause diarrhoea and perspiration. They are also very valuable in cases of softening of the bones, rickets, and debility; and people who are constant visitors at these springs are as a rule strong, healthy, and long-lived. The chief spas of this class are Wildungen, Leuk, Lipp-springe, Weissenburg, Bath, Lucca, Pisa, Bormio, Bagnères de Bigorres, and Contrexeville.

*Indifferent Thermal Springs* contain a very small amount of salines, but are nevertheless of great value as remedies in disease. Taken internally, the cooler ones act sedatively, while the warmer ones promote the action of the skin, and excite the cutaneous nerves. Used as baths, they produce a remarkable effect. First of all, a sensation is produced as though the skin were tightening, and afterwards the pulse and respiration become slower. Soon after this, the heat of the body and the muscular power are both increased. The chief spas of this class are Schlangenbad, Teplitz, Gastein, Wildbad, Pfeffers, Chaudfontaine, Landeck, Panticosa, Badenweiler, Römerbad, Plombières, Bains, Buxton, Dax, and Warmbrunn.

*Chalybeate Springs* contain chiefly carbonic acid and bicarbonate of protoxide of iron, and are tonic and stimulant in their effects, exciting the nervous, circulating, and digestive organs, and increasing the red corpuscles and fibrine of the blood. They are used chiefly in cases of debility and anæmia and general cachexia (bad habit of body). The iron of these waters, when taken internally, unites with sulphuretted hydrogen in the bowels, and forms sulphuret of iron, which turns the stools green. If continued for too long a time, the digestion suffers, the appetite fails, the bowels become constipated, and general uneasiness prevails. The chief spas belonging to this class are Spa, Orezza, Schwalbach, Brückenau, Pyrmont, Königswart, St. Moritz, and Tunbridge Wells.

*Sulphurous Springs* contain sulphuretted hydrogen and sulphurets of metals, and differ according to their temperature and to the quantity of other salines contained in the water besides the sulphur, sulphuretted hydrogen, and sulphurets of sodium and potassium. Thermal sulphurous waters accelerate the circulation, and stimulate the nervous system, producing sometimes excitement and sleeplessness, and therefore should be cautiously taken. They are useful in gout, rheumatism, chronic skin diseases, such as eczema, prurigo, psoriasis (lepra), syphilis, also in neuralgia, scrofula, and glandular swellings. The following are some of the spas of this class—Aix-la-Chapelle, Aix-les-Bains, Baden (Switz.), Eaux-Chaudes, La Preste, Amélie, Eaux-bonnes, S. Sauveur, Cauterets, Abano, Baden (Austria), Bürtscheid, Schinznach, Barèges, Luchon, Acqui, and Ax. The cold sulphurous springs are less stimulating than the thermal, and consequently safer, though not so active in their use. They are used in the same cases as the thermal, and also in sluggish liver, obesity and constipation. The following are some of the spas of this class—Langenbrücken, Nenndorf, Weilbach, La Bassère, Challes, Schinznach, and Harrogate.

It will be observed that the mineral waters just enumerated have not all the same therapeutic action and are not all suitable alike to the same class of complaints, and therefore in selecting a spa the greatest care should be taken that the one chosen should be in every particular suitable, or serious inconvenience, annoyance, and even mischief may be incurred.

In choosing a spa, every symptom should be carefully considered, as well as the particular constitution of the individual, and, as a rule, the advice of a physician should be sought before finally deciding. The following points will be of some help:—

*Dyspepsia* requires, when of an atonic character, waters containing common salt and carbonic acid, cold chalybeate or sulphur springs, or some one of the acidulous waters. To derive benefit, however,

from these waters, it is essentially necessary to combine their use with proper medicinal and dietetic remedies, and here I may mention that for all atonic forms of indigestion ginger is an excellent aromatic stimulant and tonic, dispelling flatulence and considerably aiding the digestive functions; but in order to obtain the greatest advantage from its use care should be taken to procure an essence of ginger that has had eliminated from it the resinous portion of the root, which is as disagreeable and sickly to the taste, and as useless, as the volatile and aromatic portion is agreeable and useful. Owing to the hitherto almost exclusive use of the pharmacopœial essence of ginger which abounds with the resin naturally existing in the root, ginger and its preparations have not received that amount of high appreciation by the profession and the public that they have deserved. The long required desideratum, however, has recently been supplied, and a pure non-resinous essence of ginger is now to be obtained from Mr. Hay, chemist, of Hull, who has prepared an essence of Jamaica ginger containing the whole of the aromatic portion of the root, but uncontaminated by any of its resinous portion. This essence, besides having an unusually fine aroma and flavour, is a very elegant preparation, making a beautifully transparent mixture with water, and in other ways having a great advantage over the official and all other essences of ginger. It may be taken with great benefit in all cases of impaired digestion arising from weakness of the digestive organs. It is also well adapted for the manufacture of ginger beer and other wholesome non-intoxicating beverages; and the ginger champagne prepared from this essence is one of the triumphs of the age, being one of the most delicate and wholesome non-alcoholic beverages in the market, and of great service in cases of atonic dyspepsia with flatulence. Another very valuable preparation which may be used with the greatest advantage during a course of these mineral waters is the Kepler Extract of Malt, which, taken during meals, assists in disposing of the food, besides supplying the body with a large amount of nutriment. Wyeth's Compressed Peptonic Tablets, also, are most useful preparations, containing pepsin, pancreatine, lacto-phosphate of lime, and lactic acid, and if taken immediately after eating, will wonderfully assist the digestive functions. There is a great advantage in these tablets over ordinary lozenges, in that they consist of the pure drugs only, and are not diluted with sugar, gum, or paste, which so often offend the stomach; and are moreover compressed into such small tablets that they can be easily and comfortably taken by the most fastidious. In those cases where there is an excess of acid in the stomach, the alkaline springs or springs containing iron combined with soda are useful, and in such cases Wyeth's Compressed Soda-Mint Tablets may

be advantageously used. Also if there be severe pain about an hour after eating or obstinate vomiting, it will be found very advantageous to use Syme's Lac Bismuthi, which is a very valuable preparation of bismuth, or Mackey's Mistura Bismuthi Comp., another very valuable preparation, containing besides the bismuth, other useful ingredients, which render it far more effective than if taken alone, and particularly suitable where there is much pain in the pit of the stomach. In cases of indigestion due to nervousness, the thermal brine, indifferent, alkaline or thermal sulphur waters are of most service, and in these cases again the use of Mackey's Mistura Bismuth Comp. will be found of great service; and if there should be troublesome and persistent headache in addition, I know of no remedy so prompt and efficacious as Bishop's Citrate of Caffeine. All kinds of dyspepsia are much benefited by change of air, scene, and surroundings; and therefore, in choosing a spa for this complaint, distance should be no object, for, the farther away from home is the chosen spot, the greater will be the complete change and the chances of cure.

*Costiveness* requires bitter-waters and brine-waters containing sulphur. There are imported into this country a great number of the Hungarian and other bitter-waters, all claiming excellence over each other on account of their greater efficacy. Any of these may be used with advantage in cases of habitual costiveness.

*Diarrhœa*, when chronic and persistent, requires alkaline or saline waters, and also cold chalybeates and earthy springs. This dangerous and troublesome complaint should not be allowed to continue, and the diet should be regulated by a physician.

*Piles* require sulphur and chalybeate waters, to which treatment may be advantageously added the use of Pond's Extract, as an external application or injection each night and morning. This useful extract is an excellent styptic (arrestor of bleeding), and may be confidently used in all hæmorrhages (bleedings), whether the result of disease or injury.

*Worms* disappear under the continued use of waters containing sulphuretted hydrogen. Brine injections are also very valuable.

*Liver Affections* are best relieved by a course of purgative and saline, alkaline saline, or sulphur waters. The bath-life exercises a most salutary influence in these cases.

*Tendency to Apoplexy*, or full habit of body, requires strong salt waters, but not those containing much carbonic acid. The cold water cure, dry rubbing, and brine baths are also very beneficial.

*Bright's Disease of the Kidneys* is improved by free internal administration of the milder acidulated alkaline waters, with warm baths, and when at an advanced age the chalybeates should be taken.

Attention should also be paid to the diet, and a warm winter climate should be secured.

*Gravel*, if lithic (red), should be treated by alkaline, alkalo-saline, or alkalo-muriated waters, and if phosphatic (white), by earthy waters.

*Diabetes* requires alkaline waters internally, and hot and vapour baths externally. Great attention should be paid to the diet, which should consist chiefly of animal food and gluten or bran bread, and a dry warm winter climate should be secured.

*Diseases of the Breathing Apparatus* are improved, as a rule, by the use of chalybeates, but a good deal depends on the exact stage of the disease. These diseases depend more upon the climate than upon any peculiar virtue in the water. Chronic bronchitis, moist asthma, and the early stage of phthisis, are benefited by a warm dry climate; and spasmodic asthma, irritability of the mucous membrane of the lungs, hard dry cough, and irritative phthisis by a warm moist climate. In all lung cases it is very necessary, and often very difficult, to keep up the patient's strength by artificial means, such as cod-liver oil, which can now be obtained in an almost tasteless form. The best preparation I have met with is Mackey's Emulsion of Cod-liver Oil (*mistura olei morrhue*), which is not only quite free from the flavour of the oil, but is really a pleasant medicine to take. The Kepler Malt Extract is another useful remedy in cases of debility from phthisis, and can be taken either alone, or combined with cod-liver oil, in both of which forms it can be obtained. The value of cod-liver oil in such cases need not be dilated on, but the public generally are, perhaps, not so familiar with the preparations of malt, which may be described as containing malt, sugar, dextrine, diastase, phosphates, and albuminoids, and as being most nutritious and strengthening. Another very valuable preparation in all debilitating diseases is Burrough's Beef and Iron Wine, which can also be obtained combined with quinine. In affections of the larynx and pharynx it is sometimes necessary to use inhalations, in which case the Burrough's Inhaler will be found easily portable, and thoroughly adapted for the purpose. That most distressing symptom, hoarseness, may be quickly relieved by the use of Mackey's Compound Lubricating Throat Lozenge, which I have myself used and prescribed largely, and can highly recommend.

*Hæmoptysis* (bleeding from the lungs), a not uncommon accompaniment of lung disease, is checked promptly by the use of Pond's Extract, taken internally, in teaspoonful doses of twenty minutes.

*Scrofula*, when deposits have taken place, is improved by a course of salt baths externally, and iodine waters internally; when the bones are diseased, by sulphur waters; and, when there is great debility, by sea air and sea bathing. In no disease is the value of sea air so evident as in this. Bur-

rough's Beef and Iron Wine, and Mackey's Emulsion of Cod-liver Oil, are most useful in this condition of body, as are also the Kepler Malt Extract and Fellow's Syrup of the Hydrophosphites.

*Anæmia* (impoverished or insufficient blood), and *Chlorosis* require chalybeates with plenty of carbonic acid, or salt and carbonic-acid waters, both internally and externally. Sea-bathing, travelling, and thorough change are all excellent remedies for these complaints. Wyeth's Dialysed Iron may be used with the greatest advantage in these complaints, and is a remarkably convenient preparation, being easily administered by means of a dropper, quite tasteless, and uninjurious to both the teeth and stomach. The Burrough's Beef and Iron Wine is also very useful in these complaints.

*Leucorrhœa* (whites) is benefited by chalybeates containing plenty of carbonic acid, but sufferers from this most distressing complaint should, at the same time, use Pond's Extract night and morning as a vaginal injection diluted with two parts of warm water. This valuable preparation has a remarkable effect in such cases, checking, and often quite stopping, the discharge and strengthening the parts. Wyeth's Dialysed Iron should be taken internally, and sea baths regularly used.

*Rachitis* (rickets), requires earthy springs containing much lime. Fellow's Syrup of the Hypophosphites is here very valuable.

*Spinal Affections and Paralysis* require indifferent springs, and those containing salt and carbonic acid. The cold-water treatment is also of great value.

*Neuralgia*, when accompanied by anæmia, is benefited by chalybeates and thermal indifferent waters, hot salt baths, and sulphur baths. Burrough's Beef and Iron Wine with Quinine is here very useful.

*Hysteria and Chorea* (St. Vitus's Dance) require chalybeates and saline chalybeates internally, and warm baths. The mild hydropathic treatment is also of great service. Wyeth's Dialysed Iron is, in these cases, highly useful, and Burrough's Beef and Iron Wine may also be used with advantage.

*Rheumatism* is benefited by the internal use of thermal indifferent, alkaline, or sulphur waters, and by mud baths. Lime-juice is an excellent drink in such cases, often giving wonderful relief.

*Gout* requires alkaline, saline alkaline, and lithia waters, and vapour baths. Those sufferers from rheumatic and gouty affections, who are not able to leave home, and who therefore cannot enjoy the advantages of the various baths and waters, may find a very good substitute in Sampson's (Sutton-in-Ashfield) Aërated Soda, Potash, Lithia, and Seltzer waters, which are quite free from all contaminations, exceedingly pure, and contain a large quantity of carbonic acid. They are, as testified by the *Lancet*, prepared with scrupulous care, and of great purity.

*Skin Diseases* must be treated according to the character of the eruption. Such scaly eruptions as psoriasis and squamous eczema require hot and prolonged baths, mud baths, and poultices, and arsenical waters internally. Mackey's Coal Tar Soap should also be used. In most skin affections, especially where there are deposits on the surface, as in eczema and psoriasis, salt must be avoided externally, and indifferent, earthy, and sulphur baths should be used. Internally, as a rule, chalybeates, sulphur, iodine, and arsenical waters are of most benefit. In all parasitic skin affections, and in those where there are a number of very minute scales scattered over the body, appearing like bran, Yardley's Carbolio Acid and Coal Tar Soap should be used, which is an excellent toilet soap and highly efficacious as a disinfectant and parasiticide. Mackey's Saxece Alba is also very useful in roughness of the outer skin, and chapped hands and lips.

So much for the various kinds of mineral waters and the diseases that are benefited by them. A word now about the spa customs. At most spas it is usual to retire to rest early, and rise in good time in the morning, and this is especially necessary if there are a great number of visitors, for late risers at such places have frequently to wait several hours before they can have a bath, which breaks into the day, and causes much inconvenience. The waters are generally taken between the hours of half-past 6 and half-past 8 in the morning, and the quantity varies from three or four to eight or nine ounces. Many people drink them slightly warmed, and others mixed with milk or whey, whilst a few take them through glass tubes, in order to protect their teeth. The whey is prepared by adding acetic acid or rennet (one drop) to milk (one gallon).

The arrangements for taking the waters vary at different spas, some wells being quite open and surrounded by railings, others being covered in, and others, again, so deep in the earth that it requires a rope to bring up the water. At almost all, however, an inspector has official charge of the well, from whom bath tickets must be taken.

After drinking the waters the patients promenade up and down the shaded avenues or covered footways, chatting with each other, and repeating the draughts at intervals of about twenty minutes, or half an hour, after which they take a light breakfast. It is usual to take a little coffee or chocolate before commencing to drink the waters, and it will be well to remember that in France tea is almost never drunk, so that it is as well to give up entirely that home comfort for the time, and take to the coffee and chocolate so excellently served up abroad. Moreover, the change from tea to coffee or chocolate will be a decided advantage to the invalid, giving his nervous system a chance to recover itself, which may lead to a more comfortable existence in the

future. It would be well for their health were most visitors to Continental spas to contract the habit of drinking cocoa or chocolate, and keep it up on their return home. With such a delicious beverage as that made from Fry's Caracas Cocoa and Fry's Chocolate (Bristol), to take to as a substitute, it is strange that people still stick to tea, and suffer for it. It should be mentioned that Messrs. Fry have recently produced a combination of their chocolate with Messrs. Allen and Hanbury's Malt Extract, which makes a most wholesome and delicious beverage.

Baths are generally taken after the waters have been drunk, and, as a rule, after breakfast. In France the first meal of the day consists of a *déjeuner à la fourchette* at about 10 o'clock, and is followed by a dinner of several courses about 5 or 6 in the afternoon. In Germany a light breakfast is taken at about 8 or 9 in the morning, dinner at 1 o'clock, and light tea, or second dinner, at about 5 or 6 in the afternoon. Whether in France or Germany, as a rule, people at the spas dine at *table d'hôte* in the establishments in preference to dining at their apartments. Most of the Continental spas are particularly agreeable places, having plenty of amusements and delightful and varied society. The amusements consist of bands of music morning and evening, balls, concerts, theatres, and other entertainments. Reading-rooms and libraries are open daily. The expenses are heavy at some spas, and light at others, and this depends altogether upon the celebrity of the place, which is not always due to the excellence of the water, but too often to the fact of being a fashionable lounge; and therefore it behoves one not to be hasty in deciding upon a very fashionable spa, but to look carefully round and find out the one which excels in the therapeutic value of its water, without regard to the number of visitors; in many cases the smaller spas are quite equal in value to the larger ones, and certainly more benefit and comfort will be secured to the quieter class of people by visiting these rather than those which attract the fashionable people.

Then, again, the sanitary condition of the different spas must be taken into very careful consideration, and it should be borne in mind that the farther one goes away from England, the more neglected are the sanitary arrangements, and as a rule dirt, laziness, and indifference to everything except superstitious offices of the churches increase as we travel eastwards. No wise traveller will venture for any length of time on the continent without a good supply of disinfectants, and no disinfectant is so efficacious and handy as Calvert's Safety Carbolio Tablets (Manchester), which should be used regularly for purifying water-closets and sick-rooms. I have stayed at first-class hotels both in France and Germany, where the sanitary arrangements were

most faulty, and I believe that most continental hotels, especially those of Italy and Spain, are equally neglected. In addition to this, Calvert's tablets are about the best of all preventives against vermin that I know of; and when it is remembered that in all hot climates these pests are continually plaguing one, it will be at once apparent that travellers in the south of Europe and other warm countries should never be without these tablets. Mark Twain's description of the filth, poverty and misery of most of the charming and celebrated Italian and other southern health-resorts is only too true.

At all the spas, baths of every description may be procured by paying for bath-tickets, several of which should, if possible, be taken at once in order to avoid the greater expense of single tickets. There are single and common baths, the former consisting of private baths in small cabinets by the side of the corridor, which are far preferable to the common ones, which are large and public, where numbers of people bathe together, each wearing a thin garment like a shirt. Spa physicians reside at all establishments, and are always ready to tender their advice and services gratuitously, which, it is almost needless to add, should be implicitly observed, for it is not always safe to stop long in some baths. Some people may remain several hours in the bath, whilst others can only stand ten minutes. If a long stay be made at a bathing establishment, it is customary to give a small fee towards the support of the band of music, which adds so much to the pleasure and comfort of the spa, but this is not obligatory. It is also customary when leaving a bath to present the physician with a small token in return for his good offices, which are often much sought after; but this, again, is not obligatory, and rests with the good taste and gratitude of the patient.

At many spas there are a number of establishments for hydropathic treatment, by which heat is abstracted from the body, which is at the same time stimulated by cold water applications. These baths may be taken in different manners and degrees, that is, they may be taken as full baths or partial baths, or as protracted or rapid baths. In a full bath the patient lies quietly on his back, covered with wet sheets, until he feels very cool, when he is rubbed, without the sheets being removed, until he feels comfortably warm. Sometimes the sheets are removed as they become warmed by the heat of the body and fresh ones are applied, the body being afterwards well rubbed, and a shower bath finally taken. Partial baths are applied only to particular parts of the body. The duration and temperature of the bath depends on the patient's powers, and the discretion of the medical attendant. The effects of this kind of treatment are promptly manifested, and consist in a general cooling of the body, with con-

traction of the capillary blood vessels, followed by a universal glow and excitement of the vascular and nervous systems, causing rapid absorption and excretion. The cold-water cure has a reputation for being very beneficial in cases of hysteria and other functional disturbances of the nervous system, in melancholia, rheumatism, and gout, but people of a weakly state of body, suffering from anæmic and other debilitating diseases should avoid hydro-pathy.

There are various other modes of applying water to the body, such as drop-baths, in which a single drop of water falls, from a height of twenty or thirty feet, on the part affected every few seconds, causing a great shock, which can only be borne for a few minutes at a time; douche-baths, in which a jet of hot or cold water is allowed to play upon the affected part; shower-baths; and peat-baths or moor-baths, which are prepared by means of saturating the moor-earth, day after day for years, with simple or mineral water, and then mixing the prepared peat with warm water, until it has a specific weight of about 1.2. The Franzensbad, Marienabad and Teplitz moor-baths are well known. Mud-baths are also very commonly met with at spas, notably at St. Amand-les-Eaux, and are prepared with the deposit at the springs. Pine-leaf baths are sometimes met with, but have not gained much popularity. Whey-baths, although a luxury of the rich only, are very commonly employed in cases of irritable skins, neuralgia, &c., as also are milk-baths. Whey is the serum of milk, consisting of sugar of milk and salts, left behind after the separation of the casein and butter, and is as a rule prepared with the pepsine of rennet. The salts held in solution in whey are chlorides of potassium and sodium, and phosphates of potash and soda; the phosphates of lime, magnesia, and protoxide of iron combining with the casein and becoming deposited as sediments. At most of the whey establishments, goat's milk is used in the preparation, but cow's and sheep's milk are equally good for the purpose, the only difference being that sheep's milk contains rather more albumen and rather less water, and that cow's milk contains rather less fat and salts than the other two. The value of whey drunk in large quantities as a cure in bronchial and laryngeal affections, chronic dyspepsia, and congestion of the liver, has been much lauded, but probably its good effects in these diseases have been exaggerated. Another preparation of milk, useful in cases of obstinate sickness and indigestion, is made by placing ordinary milk in a small quantity in a large open stone-ware pan, first mixed with a small quantity of powdered lump sugar, when fermentation rapidly takes place, and the milk becomes sour. In twenty-four hours the fermented milk must be put into champagne bottles and well corked down, the cork being fixed with

wire or string. On the following day it may be drawn off for use, when it will effervesce freely like champagne. This makes a very refreshing beverage. Koumiss is another preparation of milk already mentioned, which is chiefly prepared by the nomadic tribes of eastern and southern Russia, inhabiting the Kirghis steppes, and consists of fermented mare's milk, holding in solution a large amount of lactic acid, carbonic acid, and alcohol, which make it a refreshing drink. It is supposed to be of service in cases of consumption, its effects being principally a tendency to the deposit of fat and a feeling of bodily comfort. There is now an establishment at Wiesbaden, where the genuine Koumiss cure is applied.

### CONSUMPTION: ITS CAUSES, SYMPTOMS, AND SUCCESSFUL TREATMENT.

By EDWIN W. ALABONE, M.D., M.R.C.S. Eng.;  
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*Trades which produce a direct Irritation of the Lungs.*—From careful observation, there can be no doubt that the inhalation of particles of dust and other hard and irritating substances, which must inevitably result from following such trades as dry-grinding, cotton spinning, mining, wool-dressing, rice-dressing, and others of a similar kind, from being received into the lung, set up intense irritation, and so produce consumption. We find that those persons who are engaged in dry filing and grinding are very short lived, dying from 28 to 33 years of age, whilst those who grind wet live to between 40 and 50 years; proving this to be the most injurious occupation of all, for out of 250 grinders, on an average 150 will be found to suffer from disease of the lung, whilst out of the same number engaged in other work, only about 55 are consumptive. Now, as the habits of the different classes of workmen engaged in the same workshop are alike, it is evident there must exist a greater predisposition to consumption in some of them, which is entirely due to the more injurious character of their particular employment, and hence that employment must be put down as the cause of their disease.

*Deficient Clothing and Errors in Dress.*—I am aware that many medical men ignore the possibility of dress exerting any influence on the production of consumption. My own observation, however, leads me to think otherwise. Clothing is a most important consideration, for if the body be insufficiently protected against the inclemency of the weather, as we have already seen, a chill is experienced; the result being that the blood which should circulate freely over the surface of the whole body is re-

tained in the internal organs, thereby causing more or less congestion, inducing liability to inflammation, and, should the lung be the organ affected, consumption. The same remarks, of course, apply to sleeping in damp beds. There are a great many practical errors committed with regard to clothing, which it may not be amiss to point out. The first is wearing too much clothing indoors and in bed; by so doing the natural powers of the skin are exhausted, and we expose its action to a sudden check on going out into the cold air; this is a grievous objection to the almost universal use of flannel worn next to the skin, and by many persons kept on all night. Abnormal excitability of the skin is thus induced, and after a time its normal action is either lost or sensibly diminished. It is well known that the skin of some persons is so very irritable, that it is unpleasantly excited by contact with flannel, and if persisted in, it may develop some physical alteration; it does this mechanically by retaining local heat and intensifying reaction. Another frequent error committed is that of putting on summer clothing too soon, or winter clothing too late; thin-soled boots are also injurious; and here I would say a word on the greatest error of dress, namely, stays. None but an anatomist has the least idea of the horrible misplacement of the internal organs that is caused by tight-lacing. Unfortunately, there are too many signs that this suicidal mania is again becoming fashionable. A great deal has been written and said of this practice, but by recalling what I stated under the head of *malformation of the chest*, the reader will see at a glance that it is impossible for any to be healthy who practise it. Apart from its murderous effects, it is utterly opposed to symmetry, and is, in every point of view, absolutely vulgar. I speak thus strongly on this point, having but recently had cases of consumption, undoubtedly traceable to this practice.

*Weakening discharges, mercurial salivation in scrofulous habits of body, the suckling of children beyond the mother's strength*, are conditions which also will produce consumption.

*Depressing Passions.*—Mental emotions and despondency predispose greatly to induce this disease; they incline to depress all the energies of the system and leave them inactive. Some of the worst cases I have treated have been those induced by depressing passions: they give way to every feeling of languor and despondency, resigning themselves to what they are pleased to call *their fate*. We have not to go far to find many such cases. A family loses one of its members in consumption, and grief and despondency seize upon all the others. A notable instance of this I had before me at the commencement of this year. A beautiful young lady consulted me with all the symptoms of this disease, and on stethoscopic examination there was



evidence of the deposition of tubercular matter in the lung. She told me she knew she must die, and that she did not feel inclined to *do anything* for herself. After considerable difficulty I disabused her mind of the idea that the disease *must* of necessity prove fatal. She became more cheerful, persevered with the treatment I shall presently lay down, with the result that she is now in perfect health. I have no hesitation in stating that had she continued in her state of despondency, she would now have been in her grave. I mention this case to show the reader how baneful is the effect of grief; hope unmixed with fear is, depend upon it, a great antagonist to the spread of consumption. Any circumstances operating upon the manifestations of the mind, whether proceeding from exciting or depressing passions, deeply affect the physical condition; and as life itself is dependent upon the physical condition, it follows that they are capable of influencing the duration of life.

A proper regulation of the intellectual faculties, appetites, and feelings, an all-wise Providence has granted for our enjoyment and happiness; by laying the foundation of habits of self-control, the pleasant excitement of business, joined with innocent amusements, together with an approving conscience of living in accordance with the conditions designed by the Creator, are the best means, not only of preventing disease, but of securing to ourselves prosperity.

*Inflammation and Congestion of the Lungs.*—The influence of these conditions of the lung in producing consumption is a matter of some considerable dispute. Some physicians have gone so far as to say that under no circumstances do they in any way influence the development of phthisis; for myself, I can only give my opinion as based upon practical experience, and it is that they undeniably *do*. On reference to my case-books, I find that no less than 25 per cent. of the cases had suffered from either pneumonia or congestion; that previously to that they were in perfect health, and that after the attack the lungs became affected by tubercular disease. The error many medical men have committed in judging such a matter is that, their experience of chest disease being somewhat limited, they imagine that because phthisis does not follow these morbid conditions in a limited number of cases successively treated, it *never* does; on the same basis, they might as well deny the contagion of small-pox or diphtheria. Unfortunately assertion is much easier than proof, and the detection of error than the discovery of truth.

*Climate and Moisture.*—Under this head we have presented a subject on which, I think, no more divided opinions have ever been expressed, and where so little *real* and satisfactory evidence has been obtained. The cause of this is that there has

been too much of "follow my leader" amongst the medical profession, and because one eminent medical man recommended a special climate or voyage, others following suit do the same, without weighing over in their *own minds* the pros and cons of such an important matter. As I have before stated, the suggestions I shall give on this subject are purely the result of *practical experience* and not of theory. That I am opposed to the views taken by the majority I am well aware, but facts are facts, and after eight years' most careful attention on this point, and the fact that during that time an enormous number of cases have passed under my care, entitles me, I think, to form a moderately decided opinion. The conclusion I have arrived at is this—that the consumptive patient has been hitherto sent to an *enervating* climate instead of a *bracing* one. But more of this when we consider the *treatment* of consumption; what we wish at present to decide is whether the influence of climate *causes* this disease. The idea of living in a climate whose temperature is incessantly fluctuating, as is the case in England, at once suggests the idea that it must be inseparably connected with phthisis; but the idea is, I think, erroneous. Let us for a moment, without prejudice, look a little more closely into some facts in connection with this subject, and I think after having done so the reader will cast aside the supposition that we as a nation are doomed to this scourge. Now, in the first place, it is a fact that no climate can be mentioned where consumption does not exist, although it is less frequent in the torrid zones. Now, strange as it may appear, yet on careful examination it is proved that the very persons in England who are *most exposed* to the vicissitudes of the climate are the very ones who are *least affected* by consumption. The same remark applies to those who are exposed to moisture. This assertion may, perhaps, startle the reader, but the fallacy of theoretical opinions are strongly opposed when we review the *evidence* on the subject. In proof of my assertion, take for instance those who follow the avocation of tanners, dyers, washerwomen, brickmakers, &c. Now, some of these persons work with *bare feet* in puddles of water all day, and yet show no liability to chest disease; in fact, on the continent, men who are employed in "rafting," spend actually the greater part of the day with their legs immersed in water, and are positively less liable to pulmonary affections than any other class of workmen. Take again the few districts *proverbially* hot-beds of consumption, yet by ascertaining *facts* we find the disease is of comparative rarity. Now the influence of a *dry* and *hot* atmosphere is a totally different matter, for we find those who are so exposed (as, for instance, founders, smelters, &c.) especially liable to the disease. I believe, therefore, that the induction of phthisis by changes of climate has been grossly

exaggerated, and too *exclusively* considered. It is also a strange fact that the more variable the climate the greater the muscular and intellectual power. This is demonstrated by examining the moral and physical condition of different countries. Therefore, to admit this as a powerful agent in the production of a disease which unhappily prevails in our midst, seems to me preposterous. But mark me, I do not in stating this for one moment wish the reader to misunderstand me as to the effect of climate on those who *have* disease of the lungs—that is a totally different matter; I have been speaking of it solely as *producing* that disease.

Amongst other *minor* causes of consumption might be mentioned *irregularities in diet* and *dyspepsia*. A deficiency of nourishment weakens the vital forces, depriving the body of the necessary elements consistent with a healthy existence; the system thus becoming weakened is unable to withstand the development of such a disease as consumption; the *free use of ardent spirits, &c.*

In closing these remarks on the causes of consumption, I would impress on the reader that in almost every instance they can be avoided, and that, too, with little trouble or waste of time.

Before we look at the *symptoms of consumption*, there is a subject of very considerable importance attached to the disease at present attracting considerable attention, which I think it would be well to consider; I refer to the question—*Is consumption contagious?* By the ancients it was universally believed to be so, and at the present day it is a disputed point; many letters have recently appeared, and articles have been written in medical papers, some upholding the theory, others deciding against it. Morgagni and others were so impressed with the contagious nature of the disease, that they actually refused to make *post-mortems* on persons who had died of phthisis. The question is a most difficult one to decide, and demands most serious consideration, for if it be clearly shown that consumption can be communicated to a healthy person, how much could we not do to prevent its spread? From the pathology of the disease, from its progress and causes, and from comparison with other diseases, *known* to be of contagious nature, I am of decided opinion that consumption is *not* contagious. In some of the letters referred to, those who believe in its contagious nature bring forward cases of friends and relations being sacrificed through attending on the consumptive patient. All of us have, of course, seen or heard of such cases, and at first sight they seem a strong argument in favouring the idea of its contagion; but I think other causes may be found. Take for instance a wife attending to her husband, or the husband to the wife: there is the *wearing anxiety, loss of exercise, and confinement to the sick chamber* which in all proba-

bility is insufficiently ventilated. Have not these more to do with its appearance? Again, the friends or relations, although living in the same house, and sleeping in the same room or even bed, do not suffer from the disease until the patient is confined to bed; which I think proves that so long as exercise is obtained, and the ordinary duties of life are carried on, there is no predisposition; but when the mental anxiety becomes augmented, and a strain is put upon the physical powers, *then* we get the disease developed. Again, nurses of consumptive patients are *especially free* from the disease. This surely is a fact strongly opposed to the theory of contagion. The fact is, *opinions* have been and still are frequently *thought facts*, on account of their continued repetition, and this more especially in the subjects we have considered.

We will now glance at the most prominent *symptoms of consumption*.

(To be continued.)

## ALCOHOL.

By A. ST. C. BUXTON, L.R.C.P., M.R.C.S.

Food has for its objects the nutrition and repair of the tissues of our bodies, that is, the providing of stuff for growth, by saturating the blood with materials fit and proper for that purpose; and also the maintenance of the heat essential to life.

Beverage, on the other hand, is only necessary as a diluter of the blood, which is, so to speak, thickened with the solid ingredients of the food absorbed, and by the loss of some of its water through the lungs in breath, through the kidneys, and through the skin in perspiration, as well as by the formation of various secretions in the body.

It is necessary to maintain—within certain limits—the proper consistency of the blood, in order that it may rightly fulfil its functions. If it be too scantily supplied with solids, hunger is felt; if loaded with solids, thirst is experienced. So that hunger and thirst are the means provided by nature for urging us to keep our blood in its normal condition. When either of these sensations is more than gratified—in other words, abused—evil results follow.

Of all liquids, water—composed of hydrogen and oxygen—is the simplest and best diluent that we can drink, because it exactly replaces what the blood loses, without poisoning it with substances foreign to its composition. Water may, however, be quite innocently flavoured with sundry juices of fruits, extractive matters, &c., such as lime-juice, lemon-juice, coffee, and tea, in order to render the beverage more palatable and refreshing to the taste.

Again, there are beverages which, though they contain a large proportion of water, also contain foods in solution or suspension; such as milk,

chocolate, and cocoa, and which therefore cannot be looked upon as *mere* diluents.

And there is a third series of liquids, alas! too well known, consumed daily in immense quantities, which contain a highly prejudicial ingredient—alcohol. I refer to the whole tribe of “drinks” known as fermented liquors, including ale, wine, and spirits.

And what is alcohol? Looked at from a chemical point of view, the word alcohol is generic, and represents several series of organic bodies composed essentially of carbon, hydrogen, and oxygen. There are many classes of these bodies; but the particular one with which we have to deal is termed ethyl alcohol, and is known in commerce as spirits of wine or rectified spirit. It is the basis of all the so-called fermented liquors. I say *basis* because other alcohols, such as methyl alcohol and amyl alcohol (fousel oil), are often present, though only as impurities. Its composition is represented by the chemical formula  $C_2 H_6 O$ , which means that it is made up of twenty-four parts of carbon, united to six parts of hydrogen and sixteen parts of oxygen, all by weight.

Methyl alcohol is even more injurious to the human economy, when taken internally, than spirits of wine; and is known in commerce as naphtha or wood spirit. Five per cent. of wood spirit with ninety-five per cent. of alcohol form the well-known “methylated spirit” of shops—the naphtha being present simply to render the spirits of wine undrinkable.

Ordinary alcohol is obtained as a result of that particular kind of fermentation known as the vinous, in contradistinction to the acetous, which results in acetic acid (vinegar).

Any starchy or saccharine body is capable of either variety of fermentation; and various substances are employed, according to circumstances, in the manufacture of spirits—treacle, glucose, rice, and malt being some of the most commonly used. The most highly-prized brandies are distilled from wine.

Let us now trace the course taken by alcohol from the moment of its imbibition to that of its escape from the body—marking the effects which it produces as it permeates the structures. Little or no action is produced directly on the mouth or gullet beyond a slight irritation of the mucous membrane, salivary glands, and papillæ of the tongue; but when it reaches the stomach the case is different.

Now glance at the composition of gastric juice, which is the first substance on which it acts. This all-essential secretion is made up of 5·6 parts of solid matter dissolved in 994·4 parts of water. The solids are pepsin, hydrochloric acid, chloride of calcium, chloride of sodium, chloride of potassium, phosphate of lime, magnesia, and iron.

Pepsin is perhaps the most important ingredient in gastric juice, and is the one chiefly affected by spirits. If alcohol be introduced into the stomach in very minute quantities the amount of pepsin poured out is increased slightly; but in large doses, alcohol renders pepsin insoluble, and it is precipitated from the gastric juice, which is therefore rendered powerless to dissolve food—acute indigestion resulting. Indigestion, repeatedly induced, soon becomes chronic, and the source of numberless ills too well known to need mention.

Some of the alcohol is absorbed by the fine blood-vessels of the stomach, and the remainder passes on to the intestines, where it is rapidly taken up in the same manner; the whole quantity being launched into the general circulation of the blood, and carried at once through the portal vein into the liver. And here the work of destruction is actively carried on! By passing into the delicately constructed vessels of the organ, a low form of interstitial inflammation is originated, which, if often repeated, causes a tough fibrous material to be deposited between the lobules of the liver, which wastes away to make room for the intruder, and we have what is technically termed *cirrhosis*, and popularly known as “gin-drinker's liver”—a fatal disease, leading to abdominal dropsy and, slowly but surely, to death.

In tropical climates these effects are brought about in a fearfully short space of time.

Having done its work of mischief in the liver, the alcohol is quickly swept on by the blood to the right side of the heart, and thence is forced into the lungs. By this time a remarkable chemical phenomenon has taken place. The elements of which the alcohol was composed have dissolved partnership, and have re-arranged themselves so as to form carbonic acid gas and water, which pass off in the breath.

But the rapidity of the circulation is so great that only a very small fraction of the alcohol has had time to become converted, so that much of it returns to the heart—this time to the *left* side—with the blood, which is now charged with oxygen and ought to be quite free from all impurity. The tainted blood is now forced through the arteries to all parts of the body, to nourish the tissues—yes! and also to poison them.

And now the enemy is master of the field, and pervades the whole frame. Neither the muscles, the bones, the kidneys and other glands, nor the brain and spinal cord escape. Wherever there is blood alcohol has insinuated itself. Almost every organ becomes, in time, congested by the irritation to which it is subjected; and the effects on the circulation and on the nervous system are very marked.

The immediate effect of alcohol on the circulatory apparatus is to permit the arteries—and their fine terminals, the capillaries—to become relaxed and dilated, by paralysing the vaso-motor nerves, which

have charge, so to speak, of the contractility of the coats of these vessels. The well-known flushed face of the *bon vivant* is an instance of this.

To make up for the increase of capacity thus produced, the cardiac action is at first much hurried—the heart being stimulated to greater energy by the irritant poison; but in a short time the muscular force of this organ decreases and the circulation becomes feeble, as evidenced by the pulse. The temperature of the body, at first somewhat elevated, also falls to a corresponding degree.

When a large quantity of strong (raw) spirit is swallowed at one dose, acute alcoholic poisoning follows. The first indications being excitement and temporary loss of reason, followed by a later stage of insensibility—constituting, in mild cases, drunkenness. In severer forms the symptoms are those of a powerful narcotic, and are due to the awful ravages committed on the brain, which is, to all intents and purposes, paralysed.

If, however, a less potent beverage be indulged in *habitually*, the effects will be less marked, and chronic alcoholism will in time supervene, which may at any moment break out into a fit of delirium tremens, or acute mania, or melancholia, when the brain can stand no more.

During these mental aberrations the individual suffering from them frequently exhibits a strong tendency to commit murder or suicide; and, should he even be so fortunate as to recover from the violence of the brain symptoms, he will in all probability subside into the awful condition known as *Omnomania*, characterised by an uncontrollable craving for drink—all moral sense being entirely dead.

It is important to remember that, however minute the quantity of alcohol swallowed, every drop must pass through the liver before it can be eliminated. This is true of all liquids, except such as are fatty or oily, these being absorbed by the lymphatic vessels of the intestines. And when we consider how absolutely essential a sound liver is to health and long life, and that it is the *organ most easily affected by spirits*, I think we may very justly say that the dram-drinker drives a nail into his own coffin each time he indulges in his odious propensity. And what is true of alcohol itself is true of every beverage that contains it.

As the brain suffers, so must the intellect. Habit becomes second nature. The unfortunate man who gives way on one occasion has no power to resist the temptation of yielding on another. He feels low-spirited and weak, and he flies to the brandy-bottle to drown his sorrows.

We are all familiar with the despicable figure of the sot. And yet it took time to make the sot, little by little, what he is; which only means that small beginnings may have great endings—whether good or evil.—*Temperance Exhibition Catalogue*.

**COMPULSORY VACCINATION.**—At last this important subject is to be re-opened, and, we hope, satisfactorily disposed of, in the House. The question is not whether or not vaccination possesses any prophylactic efficacy, but whether the State is to persist in forcing upon an unconvinced minority the convictions of the majority. We have before expressed our views of the case, which are simply that whether vaccination does or does not procure any immunity from attacks of small-pox, which, by-the-bye, is not at all clearly demonstrated, the State can have no right at all to compel those who firmly and honestly disbelieve in its efficacy, to have their offspring vaccinated, at the risk of contracting other and more dreadful diseases even than small-pox, through the very operation of vaccination itself.

**UNQUALIFIED ASSISTANTS.**—An account appeared in the daily newspapers of June 8th, of two inquiries held by Sir J. Humphreys, coroner, at the Eagle Tavern, East India Road, Poplar, concerning the deaths of two children, alleged to have been brought about through improper treatment by an unqualified medical practitioner, known in the east end as the "Black Doctor." It appears that "Colonel G. H. Griffen" attended the children, and that the death certificate was signed by him in the name of "David Wilson Murdoch." According to the evidence, the first child had "a sort of combination" complaint; just such a diagnosis as one might expect under a system of numerous dispensaries, in which the *registered protector* of the unqualified practitioner comes in, if he comes at all, on the *last day*, in time to *save appearances*. In the second case, the "Colonel" certified death to be produced by inflammation of the bowels. In both cases the cause of death was ascertained *post mortem* to be due to pneumonia (inflammation of the lungs), which we need scarcely say had not been diagnosed by the "Colonel." Sir John Humphreys might well characterise such a system as a "snare to the public"; and the jury might well severely censure Mr. Murdoch, as they are reported to have done, for "allowing Colonel Griffen and other unqualified persons to practise in his surgery." In our August number of last year we called attention to the growing scandal arising from the habitual use of unqualified assistants by registered medical practitioners, and we now repeat our astonishment that those most interested in the matter do not insist upon an instant stoppage of this most nefarious traffic in human lives. It is a common occurrence for an unqualified and ignorant practitioner to attend a serious case, and fall back, when death is at hand, upon some registered medical pettifogger to sign the certificate for him. We know of many instances of medical practitioners, who ought by their degrees to know better, employing unqualified

assistants to help them to do the work, which alone they could not possibly do, and which some poor struggling registered practitioner round the corner would be only too glad to do. The object here is clearly to make money out of the too confiding and ignorant masses. London is full of such instances. Birmingham, Liverpool, Manchester, Leeds, and Sheffield, also teem with them; and yet the profession and the public take no heed. Such an affair as we have noticed above, however, wakes up the people and makes them think; but we fear they will soon slumber again and let the matter drop. Another scandal, though fortunately one not of common occurrence, occurred not long since, and ended in the conviction of the offender, a medical student named Thomas Aiken Smyth, who was charged with the manslaughter of the Rev. Matthew Campbell, a clergyman of the Church of England. Smyth, it appears, had the audacity to place on his door-plate "Smyth, Surgeon," which attracted the notice of deceased, who suffered from an internal complaint, and who called in the so-called surgeon. After a course of treatment of short duration, the patient died. Here, again, is immorality of another and happily less common class than the above, but not one whit the less to be deprecated. Of all frauds upon the public, one of the greatest is that which sets forth an unqualified man as a surgeon, and we can but express the strong hope that the public themselves will use a little more diligence and intelligence in investigating the pretensions of those whom they consult than is usually the case. It is not a difficult matter to make inquiries of people, and those who choose to call in a strange medical man on speculation, without making any inquiries about him, must expect to be taken in occasionally.

#### REVIEWS.

*The Idiot; His Place in Creation and His Claims on Society*, by Frederic Bateman, M.D., F.R.C.P., Consulting Physician to the Eastern Counties Asylum for Idiots; Physician to the Norfolk and Norwich Hospital, &c. (Jarrold and Sons).—Dr. Bateman in his little brochure pleads the cause of an unfortunate branch of the human family, who are unable, by the very nature of their infirmity, to say a single word for themselves, and combats the extravagant dogmas of the materialistic school and of those pseudo-philosophers who tell us that thought is merely a function of the brain protoplasm, which latter secretes thought like the liver secretes bile, &c. The author proceeds in a clear manner to establish his theory that the idiot of the lowest kind possesses what has been called the tripartite nature of man, and concludes with an earnest appeal for sympathy with this unfortunate branch of the

human family, the care and training of whom constitute one of the recognised obligations of a philanthropic public. Those interested in the subject should certainly make a point of reading Dr. Bateman's work.

*What to do in Cases of Poisoning*, by William Murrell, M.D., M.R.C.P., Lecturer on Materia Medica at the Westminster Hospital; Assistant Physician to the Royal Hospital for Diseases of the Chest (H. K. Lewis).—This convenient and most useful little book, the size of which is small enough to allow of its being carried easily in the pocket, contains plain directions for the treatment of the commoner poisons, together with the "fatal dose" of each. The usefulness of such a book will be at once apparent, and needs no further comment from us. All we need add is that it is complete and thoroughly to be relied upon.

*A Visit to Madeira*, by Dennis Embleton, M.D., F.R.C.P., Consulting Physician to Newcastle-on-Tyne Infirmary (J. and A. Churchill).—This work consists of two lectures delivered before the members of the Literary and Philosophical Society of Newcastle-on-Tyne, and contains a full description of the voyage and visit of the author to Madeira in the year 1880. The climate, rainfall, vegetation, water-supply, &c., are all fully considered, and an account is given of the condition of society, education, natural productions, and other important matters. The book is very interesting and instructive.

#### NOTES, ANSWERS, Etc.

*A Lady*.—We refer you to any registered practitioner who makes the study of eye diseases his speciality. In Liverpool there are Drs. T. S. Walker, G. E. Walker, E. A. Browne, and R. Williams.

*M.R.C.S.*—Please to send us the MS., when we will decide.

*Clericus*.—In the year 1510 it was customary for medical men to be licensed by the bishop.

*M. R.*—Carbonic acid is a gas. It is an important feature in chalybeate springs.

The following books, &c. have been received:—*Headaches, their Nature, Causes, and Treatment*, by William Henry Day, M.D. (J. & A. Churchill); *Health Resorts for Tropical Invalids*, by W. J. Moore, L.R.C.P. (J. & A. Churchill); *The Climate of the Undercliff, Isle of Wight*, by J. L. Whitehead, M.D. (J. & A. Churchill); *The Influence of Vivisection on Human Surgery*, by George R. Jesse (Pickering & Co.); *Army and Navy Calendar, 1883-1883* (W. H. Allen & Co.); *The Voice* (Albany, N.Y.)

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## THE FAMILY DOCTOR.

## BRITISH HEALTH RESORTS AND SPAS.

## ARTICLE IV.

By HERBERT JUNIUS HARDWICKE, M.D., F.R.C.S., M.R.C.P., &c., Hon. Physician to Sheffield and South Yorkshire Ear and Throat Hospital, and to Sheffield Public Hospital for Skin Diseases.

Owing to their insular situation, the climate of the British islands is far more equable than that of many continental places situated much further south, and in addition to this they have the advantage of the influence of the gulf stream, which runs across from the gulf of Mexico and strikes on the south and west coasts, bringing with it a noticeable warmth. The effect of these conditions is a remarkably equable climate, tolerably cool in summer and warm in winter, the equability being more noticeable on the south and west coasts than on the east. A glance at the isothermal lines of the British islands will at once explain my meaning. These lines run through various localities of the same temperature, and will be found to vary in different months. Thus the British isotherms of January run in a direction from north to south, whilst those of August run in a contrary direction from east to west. Commencing at Land's End, the August isotherm of 62° F. embraces all that district between the coast-line of the English Channel on the south, and a line running from Penzance through Bath, Buckingham, Ely, and Lowestoft, on the north; the next August isotherm of 61° runs from Milford Haven through Birmingham to Boston; the next, 60°, runs from Limerick, through Dublin and Blackpool, to Bridlington; that of 58° runs from the north coast of Ireland, through the Isle of Arran to Berwick-on-Tweed; and that of 56° through the Isle of Skye, and the county of Ross to Tarbatness. The January isotherms run in the following manner—that of 48° from Tralee through Cork, Youghal, Launceston, and Dartmouth to the island of Jersey; that of 40° from Londonderry, through Enniskillen,

Roscommon, Thurles, Maryborough, east of Mullingar, Armagh, Lurgan, Strangford, Llandudno, Shrewsbury, Worcester, Gloucester, and Salisbury, to Portsmouth; that of 39° from Lerwick, through Kirkwall, Strathy, Greenstone Point, Point of Aird, Island of Coll, Crinan Canal, Ayr, Dumfries, Wigton, Kendal, Clitheroe, Manchester, Stafford, Oxford, Reading, and Horsham, to Eastbourne; and that of 38° from Inverness, through the Caledonian canal to Fort William, thence through Loch Katrine, east of Glasgow, Lanark, Hexham, Darlington, York, Retford, Oakham, and Bedford, to Chelmsford. Thus it will be observed that in the summer months the warmest parts are along the southern counties, and that the more north we go the cooler it becomes; also that in the winter months the warmest parts are in the south-western corners of England and Ireland, and that the more we proceed in a north-easterly direction, the cooler it becomes. The water of the sea at Devonshire and Cornwall has seldom as low a temperature as 46° F. in midwinter, and in the Scilly Isles frost rarely appears oftener than once in three years, the mean winter temperature of the islands generally being as high as 51° F. In the month of August, on the contrary, these localities are remarkably cool, the greatest heat being found along the east coast, especially Kent, and the eastern counties, on account of their propinquity to the continent, from whence the hot winds pass over without encountering much equalising influence from the sea. The greatest extremes of climate are to be found in the eastern and midland counties. Along the south coast, all the well known health stations are well protected from the north and east winds, and the rainfall varies from 28 to 44 inches, the number of rainy days varying from 182 to 178, and the range of temperature from 27 to 88. The prevailing winds are westerly. After these general considerations of our climate, our attention must be turned to a consideration of the particular features of the best known and most celebrated of our health resorts and spas in alphabetical order.

ASHBY-DE-LA-ZOUCH is a small village in Leicestershire, possessing tolerably strong salt baths, but very poorly appreciated by our countrymen. The waters are said to be useful in rheumatism and scrofula.

ASKEW, six miles from Doncaster, is a quiet little village almost unknown, but possessing mineral waters very similar to those of Harrogate, though having a less purgative and stronger diuretic action. Mr. F. T. Hindle, the resident surgeon, informs me that these waters are very beneficial in skin diseases, chronic rheumatism, and dyspepsia.

BARMOUTH is a pretty and well sheltered watering place at the mouth of the Aber on the Merionethshire coast, having a delightfully equable, though rather moist climate, suitable as a winter residence

for cases of spasmodic asthma and irritable mucous membrane of the lung.

**BASLOW** is a charming village near Chatsworth in Derbyshire, about ten miles from Sheffield, and within easy driving distance of Buxton, Bakewell, Matlock, and Chesterfield. It is principally celebrated on account of its splendid new hydropathic establishment, and its propinquity to the charming palatial residence of the Duke of Devonshire at Chatsworth. It seems strange that a place so situated and in the midst of such charming scenery should have hitherto been utterly neglected as a winter health station, when we consider that it is well-sheltered on the north, north-east, and north-west, has a remarkably mild winter climate, and was formerly celebrated for its mineral springs, now, however, neglected and forgotten. The elevation is high in comparison to many of its better known rivals.

**BATH**, once the most fashionable spa in England, is now sadly neglected, in spite of the fact that its waters are as efficacious as before. It lies at an elevation of 100 feet above the sea-level, and the temperature of its springs, which are indifferent thermals, with a small quantity of gypsum and carbonate of lime, varies from 104° to 120° F. The climate is remarkably equable, though rather relaxing in the summer months, on which account visitors usually remain there from November until April, though the baths are open all the year round. The waters are not much drunk, being used with excellent results as baths in gout, rheumatism, thickening of the joint, paralysis, and dry scaly eruptions of the skin.

**BEULAH SPA**, near Sydenham and Norwood, is a bitter-water spring, containing a large quantity of sulphate of magnesia and chloride of sodium, and a little sulphate of soda and carbonic acid. It is used as an aperient.

**BONCHURCH**—*vide* Ventnor.

**BOURNEMOUTH** is situated in the valley made by the mouth of the Bourne, on the Hampshire coast, and is well protected on the north, north-east and north-west by fir-clad hills, which fill the air with fragrance. It has a great depth of sandy soil, which rapidly absorbs the rain, so that invalids may take a walk almost immediately after a heavy storm. The annual mean temperature is 45° F. and the annual rain-fall about 28 inches. During the season, from October to March, the mean temperature is 42-88° F., the diurnal range about 18° and the rainfall 17 inches. As a winter health station for consumptives, Bournemouth has a very wide reputation, being less bracing than Hastings and more so than Torquay. Dr. Horace Dobell has lately opened the Mont Dore establishment here.

**BRIDGE OF ALLAN**, near Stirling, is a sheltered muriated saline spring, which, unfortunately, contains a sufficient quantity of sulphate of lime to interfere

with the action of the salt. It is, nevertheless, a favourite spa for people suffering from indigestion. The waters, which are slightly aperient, are taken warm before breakfast.

**BRIDLINGTON QUAY**, which lies in the beautiful bay on the south side of Flamborough Head, is a well-known sea-side resort for scrofulous people, besides possessing a mild chalybeate spring. St. Anne's home here is supported by voluntary aid for the benefit of strumous and debilitated people. The season is August and September.

**BRIGHTON**, the sea-side London, is a most attractive and charming resort on the Sussex coast, having a bracing climate, well adapted to strumous complaints in summer and autumn, but, owing to its exposed situation, quite unfit for consumptives, or for those requiring a mild winter climate. Autumn is the season.

**BUXTON** is a prettily situated town in Derbyshire, surrounded by limestone hills, and having an elevation of 1,000 feet above the sea-level. Its climate during the season from April to November is bracing, but in the winter it is far too bleak to induce visitors to remain there. The temperature of the waters, which are of the indifferent class, is 81° F., and they are most useful in cases of chronic rheumatism, gout, and stiff joints. The average duration of a bath is ten minutes.

**CHELTONHAM**, a beautiful town in the west of England, the streets of which are planted with trees like a continental city, used to be favoured with about 14,000 visitors annually, but lately has been almost entirely neglected. It has a mild and equable climate, although rather relaxing in summer, and possesses three different kinds of mineral waters—a strong saline and bitter-water spring, a sulphur saline spring, and a chalybeate spring. The waters are chiefly drunk, and are useful in cases of anæmia and chlorosis, and also in dyspepsia and chronic liver disease caused by living for some time in India. The chief drawback to the place is the want of a sufficient quantity of carbonic acid and carbonate of soda in the waters.

**CHEERY ROCK SPA**, near Kingswood in Gloucestershire, contains a bitter-water spring, which is useful as a purgative.

**CLIFTON**, near Bristol, is better protected from east winds than any other place in England, and is built on terraces on the southern slope of a hard limestone and sandstone hill, the soil on which rapidly dries after rain. The winter temperature is 8° cooler than at Torquay, but the atmosphere is not so humid, and therefore very suitable to some forms of consumption. There is also a thermal indifferent spring, with a temperature of 74° F.

**COVE** (now Queenstown), in county Cork, is a remarkably pretty spot, built on terraces, and having a climate similar to that of Penzance, with



the additional advantage of being well protected from winds.

**DAWLISH** has a somewhat similar climate to Torquay, but is not so sheltered as that place from east winds.

**DROITWICH**, near Worcester, is one of the best of the English muriated springs, and is almost certain to be much sought after before long. The water is very rich in common salt, and all that is wanted is facility for utilising it. Were this spa to become popular and suitable, and were convenient baths erected, the annual exodus from this country to Kreuznach of those afflicted with scrofula and strumous swellings would soon cease.

**EPSOM SPA** is a bitter-water spring, containing 240 grains of sulphate of magnesia (Epsom salts) to the pint. Very useful in obstinate constipation.

**GILSLAND SPA**, situated near the borders of England and Scotland, between Carlisle and Newcastle-on-Tyne, possesses an iron spring and a sulphur spring. The ailments most benefited by a sojourn here are dyspepsia, chronic rheumatism, and skin affections.

**GRANGE**, a charming spot on Morecambe Bay, has a very mild winter and spring climate, being well protected by hills from north and east winds. It is very suitable for people with delicate chests in the spring of the year.

**GUERNSEY**, one of the Channel Islands, has a very mild, though rather humid, winter climate, but is exposed to north and east winds.

**HARROGATE**, in Yorkshire, is the most celebrated mineral spa in England, and justly so, having sulphur springs, salt springs, and pure chalybeates. It is situated about 400 feet above sea-level in a rather uninteresting country, is very bracing, and has excellent bathing establishments. The old (pump-room) sulphur well contains in 123 grains of salts 12 of lime and .8 of sulphur, while the mild (pump room) sulphur well contains in 86 grains of salts 5.5 of lime and .18 of sulphur. These waters are stimulants, increase the secretions of the alimentary canal, act on the liver, cause absorption of gouty and rheumatic swellings, and of fatty matters in cases of obesity, and are also aperient. They should not be taken for longer than three weeks at one time, or they may produce loss of appetite, thirst, giddiness, headache, and fever. The dose is half a pint three times before breakfast at intervals of fifteen minutes. Used as baths, they have a very good effect in cutaneous eruptions. The principal salt springs are the Kissingen and Montpelier sources, both containing, besides sulphur, small quantities of carbonate of iron, the former .87 and the latter .27 to the pint. The pure chalybeate springs are the Tewitt, with .18 of iron salts, and some other inferior ones. The season is from May to September, though many people remain

there till October, or even later, in spite of the bleakness of the place at such times. The Victoria baths are magnificent of their kind, but, unlike the continental spas, are quite devoid of the many comforts and luxuries met with abroad.

**HARTFELL**, near Moffatt, in Scotland, has a spring containing sulphate of iron, which is of great repute in the districts around.

**HASTINGS** (with St. Leonards), the most celebrated of British winter health resorts, having had better results in the cure of phthisis than any other in the country. The appetite is usually far better here than at the more western stations, and cod-liver oil is, as a rule, better taken (Dr. C. T. Williams). The town is well sheltered from the north and north-east by a high cliff, although slightly exposed now and then to the east winds, is more bracing than the more westerly stations, tolerably free from fogs, and built on a sand foundation. The mean temperature 89°, the range 88°, the winter rainfall about 7 inches, and the annual number of rainy days 152. There is a fairly good chalybeate spring here which is much used and well spoken of, though rather deficient in carbonic acid.

**ILKLEY**, in the West Riding of Yorkshire, is celebrated for its healthy situation and its hydropathic establishments, the chief of which are Ben Rhydding, Troutbeck, Craiglands, Marlborough House, Wells House, and The Grove.

**JERSEY**, one of the Channel Islands, has a very mild winter climate, though rather humid, but is too exposed to the north and east to be much sought after by consumptives.

**LEAMINGTON** possesses several valuable springs. The principal saline spring contains per pint 40 grains of sulphate of soda, 40 of common salt, 20 of chloride of calcium, 8 of chloride of magnesium, traces of iron, bromine, and iodine, and two cubic inches of carbonic acid. The saline chalybeate spring contains 82 grains of sulphate of soda, 60 of common salt, 20 of chloride of calcium, 12 of chloride of magnesium, 1 of iron, and 8 cubic inches of carbonic acid. There are also other sulphuretted springs. The season is from May to October. In spite of the evident and valuable properties of these waters the place is now almost deserted!

**LYTHAM**, in Lancashire, is situated opposite Southport at the mouth of the Ribble, and faces directly to the south. It possesses a very equable and dry climate, and is used as a winter health resort by delicate people in the north.

**MALLOW** possesses an indifferent thermal spring which is the hottest in Ireland, having a temperature of 69° F. The town is beautifully situated on the north bank of the Blackwater, twenty-one miles from Cork, and has a very mild, though humid, winter climate. It is quite neglected!

**MALVERN** is celebrated for its healthy situation and its hydropathic establishments. There is also a mild chalybeate here. Malvern Wells, two miles south of Great Malvern, is said to possess in the Holy Well water of remarkable purity, being quite devoid of any chemical property.

**MARGATE** is the most celebrated of all seaside resorts for strumous people during the summer months, and possesses a very fine sea-bathing hospital situated at Westbrook, just outside the town. The air is peculiarly invigorating.

**MATLOCK**, one of the loveliest and healthiest towns in Derbyshire, is celebrated for its mild winter climate, its hydropathic establishments, whose name is legion, and its mineral waters, of a temperature of 68°, something analogous in chemical constitution to those of Buxton. Matlock Bath is situated in a deep ravine, amidst magnificent scenery, and is quite sheltered from all strong winds, which makes it a very valuable winter health resort for people with delicate chests. In summer it is too close for residence in the town. Matlock Bridge is much more open, and it is here that the hydropathic institutions are located.

**MELKSHAM**, near Trowbridge, possesses a valuable salt spring, which is not appreciated as it deserves.

**MOFFATT**, in Scotland, 400 feet above sea-level, is well known for its damp climate and its cold mineral water springs, which contain sulphur, sulphate of lime, sulphate of soda, and chloride of sodium, and are slightly aperient. They are useful in cutaneous affections.

**PENZANCE** is the most equable and most humid of all English health resorts, being cooler in summer and warmer in winter than any other. The sea breezes are remarkably strong and pure, and very suitable to those invalids whose lungs are not irritated by strong warm winds, and who require a moist climate. For most people this climate is too relaxing, even in winter. The protection from the north is not quite as good as could be desired.

**PURTON SPA**, near Swindon, possesses a spring containing small quantities of carbonate of potash and carbonic acid, which has a reputation for being curative.

**QUEENSTOWN**, in Ireland—*vide* Cove.

**REDRUTH**, in Cornwall, possesses a spring which, if all that is said of it be true, must be of great value. It is situated at the bottom of a mine, and is said to contain a large quantity of lithium, besides an amount of common salt, which has hitherto prevented the water being utilised.

**ROTHESAY**, the capital of Bute, is a very good winter health resort, mild and equable, though rather humid. It is well protected from the east winds, and has a mean annual temperature of 41·25° F., while its mean temperature in winter is 39·62°, in spring 46·66°, in summer 58·2°, and in autumn, 48·59°.

**ST. LEONARDS-ON-SEA**—*vide* Hastings.

**SCARBOROUGH**, the queen of watering-places, is without question the most beautiful in England, and possesses two weak bitter-water wells—one, the South Well, containing 28 grains of sulphate of magnesia, 18·8 of sulphate of lime, 6 of carbonate of lime, 8·7 of common salt, and ·23 of iron; the other, the North Well, contains only 17·8 grains of sulphate of magnesia. They are considered to be tonic and aperient, but are generally found to lie heavily on the stomach, owing to the quantity of lime they contain. During the season, from August to November, this is a celebrated resort for invalids, especially those afflicted with scrofula. In the spring it is very bleak and cold.

**SHAP**, near Penrith, possesses a good sulphur spring, besides very good baths, and has a large number of visitors annually. It is situated at an elevation of 1,000 feet above sea-level, and has a very bracing climate.

**SHELFANGER SPA** is situated two miles from Diss, in Norfolk, ninety-five miles from London, and twenty-one miles from Norwich, and bids fair to become one of the most popular of baths. It possesses a very good mild chalybeate spring containing (per gallon) salts in the following proportions, viz. carbonate of magnesia 28·58 grains, carbonate of lime 2·45, carbonate of iron 2·90, chloride of magnesium 4·81, sulphate of magnesia 0·49, sulphate of lime 1·20, sulphate of soda 3·00, ammonium chloride 1·70, silica 0·21, and a large quantity of carbonic acid. The waters are tonic, antacid, slightly purgative and saline, and are particularly useful in anæmia, chlorosis, atonic dyspepsia, chronic constipation, and general debility. The little village of Shelfanger is situated in a shallow valley about 140 feet above sea-level, on a gravel soil, and well protected from the north, and possesses an invigorating climate, the mean temperature being in summer 60·1°, with a range of 54°, and in autumn 49·1, with a range of 56°, and the annual rainfall 26 inches. There is an excellent spa-house, under the able management of Dr. and Mrs. Farrington, and boating, archery, lawn-tennis, and other healthy amusements may be had *ad lib.* I shall be surprised if this health resort does not become one of the most popular in the country.

**SIDMOUTH** is one of the most protected watering-places in England, and is almost certain to become before long a popular winter health station. It is open *only* to the south, and the cliffs, which almost surround the town, have a magnificent appearance. Not one of the south coast health stations can claim superiority to Sidmouth in regard to equability of climate, together with protection from the north, east, and west winds. At present it is quite neglected, and there are no really good hotels. The temperature is about four degrees warmer than

London in winter, and it is said to be the driest of the Devonshire watering-places. The one, and about the only fault the place has, is that of being rather relaxing at times, but not as much so as Torquay.

**SOUTHPORT**, in Lancashire, is a celebrated winter health resort for consumptives, having a remarkably mild and dry winter climate, and being built on a sandy and very absorbent soil. The rainfall is small. The sea recedes to an unusual distance, and never comes quite up to the town, leaving a large expanse of sand, which gives it sometimes a strange appearance. In the summer the climate is very relaxing.

**STRAITHPEPPER** is the most northern of our British spas, being situated in a narrow valley at the bottom of Ben Wyvis, in county Ross. It possesses several strong sulphur wells, the principal one of which contains about three cubic inches of sulphuretted hydrogen, 16 grains of lime salts, and 7.5 of sulphates of magnesia and soda. The waters are usually taken before and after breakfast, are strongly diuretic, and are very useful in rheumatism, dyspepsia, and skin diseases.

**TENBY** is a beautiful Welsh watering-place, situated on the western side of the Bay of Carmarthen, at an elevation of 100 feet above sea-level. It is well protected on the north and east, and open to the south-west, which makes it a valuable winter resort for invalids. The climate is equable, dry, and bracing, and is suitable to delicate lungs both in winter and summer.

**THORP ARCH**, in Yorkshire, possesses a salt spring which is said to be of value in many diseases.

**TORQUAY** is one of the most celebrated of English winter health stations, and is built on the slate and limestone terraces of three hills and in the valleys between them, surrounded by exquisite scenery, and almost entirely sheltered from the cold winds. It has the highest winter temperature in England, and, with the exception of Penzance, enjoys the greatest equability, but has the great disadvantage of a large number of cloudy days in the year, besides not being quite protected from the east winds. The mean winter temperature is 44.6° F., the range 29°, the winter rainfall about 6 inches, the number of rainy days in winter 79, and in the year 154. This resort is most suitable for consumptives who require a mild, equable, and sedative climate.

**TREFRW**, in North Wales, possesses strong sulphate of iron springs which are gaining in reputation.

**TUNBRIDGE WELLS** is situated at an elevation of 800 feet above sea-level, and possesses a weak but pure chalybeate spring containing a small quantity of carbonic acid. The place has fallen into disrepute in spite of having a healthy and invigorating climate, as well as the best chalybeate spring in England.

The bathing arrangements are, unfortunately, not good. To make the waters more useful, the Seltzer or Appollinaris waters might be mixed with them.

**VENTNOR** and the **UNDERCLIFF** (with Bonchurch) are very celebrated health resorts for consumptives, and are protected on the north, north-east, and north-west by high cliffs. The town of Ventnor is built on a very permeable soil, on a number of terraces 150 feet above sea-level, facing the sea, and open to the south, south-east, and south-west. The mean annual temperature is 89° F., and the range 83°, while the mean temperature in winter is 45.72° F., in spring 46.66°, in summer 60.68°, and in autumn 58.58°. The mean daily range in winter is 7.71°, and in spring 12.55. The winter rainfall is about 7 inches, the number of rainy days in winter 80, and in the year 152. There is an excellent consumption hospital here.

**WEMYSS BAY** is celebrated for its good climate and its hydropathic establishments.

**WOODHALL SPA**, in Lincolnshire, is one of the most important of the English mineral waters, and is sometimes called the "Iodine Spa," on account of the iodine contained in it. One gallon of the water contains 1,215 grains of common salt, 105 of chloride of calcium, 86 of chloride of magnesium, about 5 of bromide of sodium, and about 2.7 of iodide of sodium. Thus the water really is an iodobromated brine, with about 120 grains of common salt, half a grain of the bromide, and a quarter of a grain of the iodide to the pint. It is extremely doubtful whether the Woodhall water owes its value to the iodides and bromides. More probably its good effects are due to the large amount of chlorides contained in it. It is a very popular spa, with a good hotel, pleasure-ground, pump-room and baths, and is valuable in cases of gouty and rheumatic swellings and scrofula.

**WORTHING** is a small sea-side resort on the Sussex coast, not far from Brighton, and is well sheltered from the north winds by the Downs, which makes it a place of some repute as a winter health station.

### CONSUMPTION: ITS CAUSES, SYMPTOMS, AND SUCCESSFUL TREATMENT.

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(Continued from page 81.)

#### SYMPTOMS OF CONSUMPTION.

We now come to the symptoms which indicate that the lung is affected, by which I mean that tubercular deposition has actually taken place. How frequently we hear a person complain that he has a "bad cold," or, perhaps, a "little bronchial affection," very slight notice being taken of it, whereas it is of vital im-

portance, and should, in the majority of instances, excite the greatest anxiety, as being indicative of a deposition of tubercles. Very possibly a medical man who makes no speciality of chest disease has been consulted, and remedies are exhibited by the stomach which, although they alleviate the symptoms immediately complained of, simply mask the danger, for the disease slowly but surely advances until the disease becomes more fully developed. Thousands of persons in this way are misled, and mislead themselves, until some decided symptom, such as hæmorrhage, &c. render self-deception no longer possible; and now the patient finds that instead of returning health, as he had anticipated, his symptoms become worse; he grows suddenly alarmed, and decides to seek the best mode of relief; he finds he is losing flesh, gradually but surely, that on some little exertion his breath fails and becomes short; he consults another medical man, who advises a "change in the country," or, possibly, a "sea voyage," and is told that he will get well as soon as the spring, or warm weather comes; but, alas for those who put their trust in these delusive hopes, but too many prove that the "country" means the grave, and that the spring is a time he will never in this life see. We will first look at the symptoms of consumption *generally*, then *individually*.

The *general* symptoms will best be explained by a brief sketch of an ordinary case; we shall then see the signs by which the disease may be recognised in its early stages, and also the danger of waiting to see if improvement takes place, without resorting to proper treatment. If the patient waits till the expectoration becomes purulent, or streaked with blood, or till night sweats and hectic fever make their appearance, he will wait till the disease is far advanced and the result of the treatment, to say the least, uncertain; whereas, if the treatment be adopted and persevered with during the earlier stage, a cure can be looked forward to almost with certainty.

The first symptom usually noticed by the patient is a more or less persistent *cough*; for a considerable time this is so slight as to be entirely unnoticed by the patient, and possibly overlooked by his friends, or, if noticed, is attributed to cold, whereas it is in reality caused by a deposition of tubercles in the lungs. It is usually noticed most on rising in the morning, after meals, or any extra exertion of the vocal powers. This cough after some weeks, or, may be, months (dependent upon the condition of the patient and the care taken), is attended by the expectoration of a *little* clear frothy fluid, which, as time goes on, becomes tinted with a little yellow or greyish matter, until it is almost entirely composed of it. Now, whenever a dry cough is noticed which is more or less persistent, the patient being apparently in good health, suspicion should always be excited, and an

examination of the lungs be made; for although it *may* be of no import, yet it is *suspicious*, and no one who rightly estimates the value of health will disregard its *warning*. But to resume. After a short time *tightness across the chest* is complained of at *intervals*, the breathing becomes *slightly affected*, the patient usually discovering it whilst going up stairs, when respiration becomes unusually hurried. At first this symptom is so slight that little notice is taken of it, but as the disease progresses it becomes more marked. A great number of persons, on being asked if there is any shortness of breath, will exclaim, "Oh, no!" and immediately take a deep inspiration, remarking, "the lungs are all right." Now, this is a false ground to stand on, because, according to the size of the lung, so the sense of shortness of breath is increased or diminished. A person with large lungs is, as a matter of fact, better able to lose the use of a part of the lungs than would those who have small ones. Of course, persons in health have their respiration hurried on exertion, but by carefully looking back, a person with the commencement of lung disease will find he is incapable of undergoing as much exertion as when in health. Normally, the number of respirations per minute are sixteen, and if we find them increased whilst the patient is sitting quietly (and unaware his respirations are being counted), we may be certain there is *shortness of breath*, and with this the circulation becomes disturbed, the *pulse* becoming *quicker*; if, therefore, you have a more or less persistent cough, a slight shortness of breath on exertion, and an increase of the beats of the pulse, you may take it for granted there is some lung mischief, and at once seek means to remove it. *Pains* now begin to be felt in different parts of the chest; the *sleep* becomes uneasy and interrupted by fits of coughing; the *voice* assumes a *husky* tone, and the appetite becomes impaired. There is also irregular action of the bowels, and after meals flushing of the face and drowsiness, whilst towards evening the palms of the hands and soles of the feet are hot. And now the disease begins to tell directly on the patient, the muscles lose their tone and vigour, the countenance becoming pale and the nervous system depressed, with an uncertain temper—the patient usually being more or less dissatisfied with everything, yet declaring his disease to be of no importance whatever. As, however, the disorganisation of lung tissue proceeds, the cough becomes more violent, constantly interfering with sleep, and on awaking in the morning there is profuse *perspiration*, gradually extending over the whole body, commencing from the knees; these sweats induce great prostration, especially in the earlier part of the day, there usually being a slight increase of strength towards evening. The tissues of the body now begin to waste, the fingers becoming smaller and more attenuated, the cheek

bones prominent, and a dark rim appearing under the eyes. And now the first symptom which really alarms the patient occurs. The *expectoration becomes tinged with blood*. As we shall presently see, when examining this symptom individually, it may occur at an earlier stage, being the first warning the patient has. This hæmorrhage is caused by the disease having destroyed a blood-vessel, or from rupture taking place through the violence of the cough.

The quantity of blood discharged varies greatly, depending upon the amount of mischief that has taken place. Occasionally the expectoration is simply tinged with it, whilst at other times it may be so great as to destroy life, and this before the disease has progressed out of the first stage. These cases are designated the *acute form of consumption*, of which more hereafter. Usually the appearance of blood so alarms the patient that, if he has not already done so, he seeks immediate advice; generally it induces nervous shock, with corresponding mental and physical depression. Towards evening the fatal red blush on the cheek is perceptible—so frequently mistaken for a healthy colour; it is, however, *clearly defined*, the surrounding skin being *pale*. This is termed the hectic flush. The cough now is perceptibly increased, being aggravated by eating, moving, lying down, or getting up; the expectoration assumes a greenish-yellow hue, and is frequently streaked with blood; the breathing becomes much more difficult, respiration hurried, night sweats more frequent and severe, and greater waste of the tissues, the debility increasing daily. The walls of the chest also fall in, causing a *flattening* of the chest, with diminished movement and an alteration of measurement. And now the most casual observer apprehends danger; yet such is the elasticity of the human mind, that even in this condition, and later on, the patient becomes more hopeful, although the symptoms of approaching mortality are so apparent. As the disease proceeds towards a fatal termination, the tubercles, which were at first of a hard character, become softened, forming an ulcer, which gradually destroys the adjacent tissues, until it eats into a bronchial tube, through which portions of the diseased lung are coughed up and expectorated. After this process has taken place the cough usually abates a little, although the expectoration increases and assumes a darker colour (more of a leaden hue), frequently offensive, owing to suppuration of the lung tissue. The pain also decreases, but the sweats become still more severe, the tissues still waste, other symptoms increase, until another appears which is most distressing to the patient and frequently baffles all treatment, an *obstinate diarrhœa*. The feet and legs now become dropsical, the tongue and gums sore, and possibly ulcerated, thus adding to the patient's sufferings. Hectic fever makes its appearance, the cough now becoming *incessant*, the

eyes are dimmer, and there is slight difficulty of swallowing. In some cases the mind is clear, the patient dying amid his hopes; in others, the mental powers become clouded and diminish with the physical. All these symptoms, occurring, as they do, in so many degrees, are terrible, not only to the poor emaciated and worn sufferer, but, alas! also to the friends who watch by the bed-side, and it seems a positive relief when the weary, lingering illness is ended by the gentle and welcome approach of death, and life's fitful fever is over.

Such is a very brief outline of this terrible disease. Its duration varies considerably, dependent upon the occupation, constitution of patient, &c.

We will now look more closely into each individual symptom, and first:—

*The Cough*.—Many physicians give their opinion that the cough in phthisis is generally of a slight character. My experience is the reverse. Certainly, during the very early stage of the disease it is so slight as not to be noticed by the sufferer, and even as far as the end of the first stage it is not, as a rule, of great frequency or duration; yet as an individual symptom through the course of the disease, I have found it most troublesome and harassing. The cough of consumption is very frequently mistaken for the cough of an ordinary catarrh, or that caused by throat irritation or derangement of the stomach. This is a serious mistake, and one that should not be made, as the cough of consumption is totally unlike either of the others. This can be seen by comparison with them; for instance, in bronchitis, which is an affection of the mucous membrane lining the bronchial tubes, which ramify the substance of the lungs. This membrane, being very sensitive to all external influences, is very prone to become irritated by atmospheric changes. It is, however, usually caused by an ordinary cold; first showing itself in the nose, next in the throat, and from there gradually extending to the bronchial tubes. The more acute symptoms usually subside after a short period; that is if the patient be properly treated; if not, he finds he does not return to his former state of health, but has a disposition to flushing in the evening, and on taking exercise finds himself a little short of breath. Still his general health is not affected, and if the weather be mild there may be no expectoration, but as the winter approaches there is a change; the cough becomes troublesome, and a yellow-coloured expectoration makes its appearance; the flushing in the evening assumes a decided hectic character, night sweats occur with rapid loss of flesh, and probably death takes place before the spring of the next year. Now, all these symptoms appear to the untrained mind to be consumptive, and yet it is simply a chronic catarrh of the lungs and not consumption at all. Of course all cases do not assume this serious

aspect, but take on a middle form, which is the so-called *winter cough*, coming regularly in winter and vanishing in the summer; although as each winter comes there is a greater severity of the symptoms, and if improperly treated, this disease is ultimately as fatal as consumption. There are several other varieties of bronchitis, but this is not the place to consider them. What I wish to show is, how the *cough* of consumption can be distinguished from the cough of catarrh. The consumptive cough is *persistent* and *continually increasing*, whereas the cough of catarrh is more or less evanescent, the patient losing it *entirely* for a month or six months at a time. Therefore, if a person *really loses* a cough for that period of time, it is pretty certain it is not a consumptive one. At the same time a cough of long standing is a grave symptom, and those who have them and are nursing them, hoping to grow out of them, or for them to disappear of their own accord, should awake from their lethargy. However unimportant it may seem to them, it leads on by slow, but sure steps, to a premature grave. The cough arising from stomachic derangement, ceases immediately that difficulty is overcome. In consumption, the cough is more or less violent from its commencement, and forms, in the majority of cases, one of the most prominent symptoms of the disease. It is usually noticed, at first, on getting out of bed in the morning; after a time it occurs after meals, and is excited by active exercise; it then becomes troublesome on getting into bed. Mental excitement also increases its severity and frequency, and it often happens that the patient cannot lie on the side of the chest affected, on account of the increase of cough such position entails. In some rare instances, as before stated, the cough does not appear till the last month of existence, although cavities may have been in the lungs for some time. In other cases, few and far between, the cough is very slight; but in the great majority of patients I find the cough most distressing, especially at night, for then no rest can be obtained except under the influence of opium, and, as I shall hereafter point out, the use of this drug is most hurtful, whilst the relief it affords is, at the best, but transient. After the cough has existed some time, it is accompanied by the expectoration of a *glairy mucus*, thin, and semi-transparent, which, if examined microscopically, will be found frequently to contain small opaque bodies, similar to small seeds; this is decisive as to the character of the disease, and as these tubercles soften down, so the cough increases in intensity and duration, occurring at all hours of the day; becoming hollow, and reverberating as the lungs become evacuated by ulceration.

(To be continued.)

**SANITATION AT THE SEA-SIDE.**—The action-at-law taken by the Brighton Town Council against the *Lancet*, for alleged misrepresentation of facts to the injury of the town, brings before the public an important subject for consideration, viz. the sanitation of sea-side resorts generally. It is no doubt true enough that many a man who has spent his surplus earnings at some celebrated health resort in the expectation of returning to town with renewed vigour, has brought back with him, instead, some zymotic disease contracted during his visit. Scores of people every year contract, during their holiday at the sea-side or elsewhere, diseases which undoubtedly could be prevented by proper attention to the sanitary arrangements in hotels and lodging-houses, and there are hundreds of people who have even lost their lives from the same cause, and have been laid to rest in the very place to which they repaired in the hope of being invigorated for another year's toil. This is patent enough to all who take the trouble to inquire into the matter, and it is a disgrace to our modern civilisation that such preventable dangers should be allowed to exist at our health-resorts, which should be models of sanitary arrangements. It is too often the case that outbreaks of disease are ignored by the indolence, or concealed by the cupidity, of those who make their incomes out of the unsuspecting victims, and protection can only be supplied by compulsory and periodical inspection and regulation of all houses where lodgers are "taken in." It rests with the visitors themselves to bring about this happy condition by their combined action, which would not only probably be successful in the future, but would have a salutary effect at once by producing a healthy rivalry amongst lodging-house keepers, who would no doubt immediately begin to vie with each other in producing reliable certificates of proper sanitary arrangements. It rests with the public to compel lodging-house keepers to produce health certificates, and have them suspended in a prominent place in the house, and if they do not avail themselves of their power, they must themselves take the consequences. We shall be surprised, however, if lodging-house keepers do not of themselves take up the matter and show health certificates on their doors, cards, and circulars. They will do a wise thing if they do.

**TOBACCO-SMOKING.**—Anti-tobacconists are very hard on smokers, and accuse them of being beasts, miserable victims of certain destruction, and teachers of immorality. They see in the increasing consumption of tobacco among civilised peoples the most invincible proof of moral degeneracy and national ruin. They stump the country from one end to the other, preaching their doctrines with as much zeal and intolerance, and as little reason as

the various representatives of religious denominations. This is clearly evinced by the emotional pamphlets so familiar to us in connection with the anti-tobacco party. They misunderstand and misapply expressions in the manuals of *Materia Medica*, and terrify the ignorant and credulous with absurd stories about the fearfully poisonous nature of nicotine, and the thousands who perish from its use. It is not our intention to pretend that the excessive employment of tobacco is not an injurious practice, which will inevitably produce physical ills and bodily weakness; but we must enter our protest against the exaggerated statements put forward by fanatic anti-tobaccoists, who appear to stop short of no absurd statement by which to convince their hearers. Nicotine certainly produces paralysis of the terminal plates of motor nerves if taken in excessive quantity; and also leads to degenerative changes in the nervous centres, and causes severe indigestion. The same charge may be laid against tea; but we opine that anti-tobaccoists would be loth to give up their regular use of this beverage. In the same way that tea, taken in proper quantity and at proper times, is serviceable to man, so also is tobacco, which often enables a man easily to achieve work which, without its aid, he would with difficulty perform. Master flights of intellect have had their birth under the influence of tobacco. No doubt it is a very bad habit for young people to smoke much, and for older ones to smoke excessively; but we cannot think that smoking tobacco in moderation will do any full-grown man any harm. A series of experiments has been recently conducted by Herr Kissling of Bremen, with the view of ascertaining the proportions of nicotine and other poisonous substances in the smoke of cigars. In his paper, which is published in *Dingler's Polytechnisches Journal*, he specifies, as strongly poisonous constituents, carbonic oxide, sulphuretted hydrogen, prussic acid, picoline-bases, and nicotine. The first three occur, however, in such small proportion, and their volatility is so great, that their share in the action of tobacco-smoke on the system may be neglected. The picoline-bases, too, are present in comparatively small quantity; so that the poisonous character of the smoke may be almost exclusively attributed to the large proportion of nicotine present. A small part of the nicotine in a cigar is destroyed by the process of smoking, and a relatively large portion passes off with the smoke. It would appear that in the case of cigars that are poor in nicotine, more of this substance relatively passes into smoke than in the case of cigars with much nicotine; also that nicotine, notwithstanding its high boiling point, has remarkable volatility. Let smokers, therefore, be careful not to smoke too strong tobacco, and to be satisfied with a moderate quantity, and we think they will not take much harm.

**DEAF MUTES.**—The Association for the Oral Instruction of the Deaf and Dumb has issued its Annual Report for 1881, of which the following is a summary. There have been at their Fitzroy Square school during the past year 64 pupils under instruction, 35 boys and 29 girls. A considerable number of pupils left during the year, after having completed a sufficient course of instruction to fit them for being useful members of society, and most of them are now preparing themselves for earning their own living in various ways, e.g. by wood-carving, printing, engraving, painting on china, &c. The school in Farncombe Street, Bermondsey, which is conducted for the London School Board, under the supervision of the Association, consists of 18 pupils, 11 boys and 7 girls. The lessons in speaking and lip-reading which are given to the pupils at the school, 11, Fitzroy Square, every Wednesday (at 3 p.m. punctually), and are open to the public, continue to be well attended by visitors. It ought to be widely known that the Oral system of instruction in speaking and lip-reading, is applicable not only to children who are already dumb as well as deaf, but also, and with speedier results, to the numerous class who become either totally or partially deaf after having begun to speak, but before attaining the age of eight or nine years. Such children, if left without instruction for even a few months, become altogether dumb; but Mr. Dalby, who has had a large number of such cases under his observation, finds that the prompt employment of some modification of the Oral method usually prevents the loss of speech, and sometimes keeps those who are only partially deaf almost on a level with hearing children of their own age.\* In their last report the Committee mentioned the Conference of governing bodies of institutions for the deaf and dumb, which was held in Chandos Street, in March 1881. In June there was a Conference of Head Masters of Deaf and Dumb Institutions, and other workers for the education of the deaf and dumb, in which Mr. Van Praagh took part; and he has lately (May 1882), taken part in a similar Conference held at Doncaster. In April 1881, the Committee having observed the general disposition to adopt the Pure Oral system manifested at the Chandos Street Conference, but being apprehensive that imperfect attempts to introduce that system into existing institutions might prove unsuccessful, and thus revive former prejudices against it, issued a circular offering to train free of cost any suitable teachers whom any public institution desirous of adopting the Oral system might send to the Association. To the regret of the Committee, no institution has as yet availed itself of this offer. According to the balance sheet, the financial

\* See *On the Educational Treatment of Incurably Deaf Children*, by W. B. Dalby, Aural Surgeon to St. George's Hospital. (Churchill, New Burlington Street.)



position of the Association is by no means satisfactory. Although the expenditure was less than in the previous year, and much less than it will necessarily be this year, when a considerable outlay on repairs will be unavoidable, the total income was insufficient by nearly £100 to meet the expenditure, and as a result the Committee were at the end of the year indebted £96 8s. 5d. to their bankers. The Committee, therefore, earnestly request the friends of the Association to add to its means both by donations and—what is much more satisfactory to those responsible for the management of such institutions—by annual subscriptions. We wish the Committee every success in their praiseworthy undertaking, and trust that their call for help will be responded to.

**THE USE AND ABUSE OF ALCOHOL.**—The question of the use of alcohol in health and in disease occupied the attention of the Sanitary Congress which lately met at Vienna, formed by the joint assembly of the two German societies which deal respectively with the theoretical and practical aspects of hygienic questions. The principal paper read was that of Professor Binz, from Bonn, an authority of importance on the subject. He asserted that there are numerous cases of feverish and non-feverish disorders in which the use of alcohol is able to preserve the activity of the heart and the organs of breathing, and to bring the entire organism, even if with difficulty, through a dangerous crisis. This he attributed to the nutritious power of alcohol, which, as it were, supplies the fuel to the human machine, which under normal circumstances is furnished by the fatty tissues, &c. He also referred to its successful use when the stomach cannot retain any other form of nourishment, and as a means of reducing the temperature in cases of fever, thus indirectly benefiting the patient by checking the loss of strength. While condemning in a general way the use of alcohol when not for medicinal purposes, the speaker cited numerous cases in which alcohol is rightly used as a preventive of illness. He referred to the use of it in cases of extreme cold, and also as a means of preventing the relaxation of the heart's action, which work in excessive heat has been known to produce. As to the efforts sometimes made to counteract the consumption of spirits by that of beer, the statistics and calculations quoted by the learned professor pointed to the fact that an habitual beer-drinker often takes as much alcohol as a regular consumer of spirits. As to the excess to which beer-drinking can be carried, he quoted the following statistics:—In a German capital the average consumption of beer in 1876 per head of the population (including women and children of all ages) was equal to about 400 quarts, or rather more than a quart a day. In this daily quantity there

would be about fifty-two cubic centimetres of alcohol, and the individual consumption of the beer-drinking male population is estimated at from two to ten times this average rate. As to the relative demerits of excessive drinking in these two forms, Professor Binz remarked that the beer-drinker usually took his liquor slowly in an atmosphere more or less insalubrious. At the same time he admitted that the question of encouraging the brewing industry with State assistance, as a means of combating spirit-drinking, was deserving of full consideration, even if it only substituted for one enemy another of a less dangerous character. He also pointed out the necessity of the Government taking up the question of the adulteration of spirits. The paper prepared by Dr. Baer was very lengthy, and as time was limited, he could only read some passages from it, which, however, were fully appreciated, and will cause the publication of his treatise to be looked for with interest. His remarks dealt with the necessity of asylums for inebriates being more extensively erected, and with the advisability of persons convicted of drunkenness being placed in such institutions instead of being imprisoned as for an ordinary misdemeanour. The question is likely to come before the German Legislature at no distant date, and the proposal of Dr. Baer is said to have the support of Dr. Virchow and other eminent physicians.—*Lancet*.

**THE VALUE OF EXERCISE.**—Without obtruding our opinion in a controversy which seems to be going on merrily in the pages of the *Spectator*, we may embrace the opportunity to remark that "the value of exercise" is always dependent on the special needs of the particular organism exercised. The body, as a whole, inclusive of the brain, and, therefore, of what we are wont to call "the mind," is composed of a number of essentially separate, though combined, contributory, and independent, parts or apparatus. Health is the result of the harmonious working together of these systems. Each one for itself obeys the universal law that a living organism feeds as it works; but as all, so to say, dine at the same table, if one is unduly—that is excessively—exercised, so that it requires a disproportional food, some other parts or part, perhaps the weakest, will be deprived of its natural supply, and suffer in consequence. Speaking generally, it may be said that the food of the entire body is supplied from a central and common source, that each system nourishes itself as its special needs or impulses require, and that its consequent strength or energy is dependent upon and centered in the local apparatus. Thus some individuals are well nourished and energetic as regards their mental system, while they are starved and weakly of body. Others, again, are muscular, but deficient in mind-power. If any one

part of the body as a whole, be overworked or underfed, it is not likely to be beneficial, but the reverse, to overwork some other part. Nothing is gained by exhausting one part of the organism because another is exhausted. Practically "overwork" means work which does not strengthen, but weakens. It may either be excessive in quantity or bad in quality. Whatever the defect may be, it must be remedied locally—that is to say, as regards the system which is at fault, not by setting some other system in action. In those cases which seem to be benefitted by prescribing muscular exercise for mental work and worry entailing sleeplessness, the good gained is not due to the exercise of the muscular system, but to the relief of the brain. Only in so far as increased muscular exercise may quicken the pulse and promote assimilation does the physical exercise of the brain-worker advantage his mental health. It is physiologically impossible to repair the defects of nutrition in one part of the organism by making some other work and feed. There is, however, always behind and underlying these special considerations that all-important one to which we alluded just now; namely, that health consists in the harmonious working together of all the parts or systems of the organism. Therefore, to establish a normal state, the wise liver should so order his life and work as to give *every part* of his organism a sufficient incentive to nutrition. This can only be accomplished by ensuring the activity of the body and mind throughout. General exercise must be made up of particular exercises, as general sleep is the sum of particular sleeps.—*Lancet*.

**THE DWELLINGS OF THE POOR.**—The question of the sanitary condition of the homes of the poorer members of the community is one that forces itself on the attention of the public, not merely as a philanthropic consideration, but also as a matter of self-interest. It is of little use that the respectable inhabitants adopt for their own dwellings the most perfect sanitary arrangements, if pestilential and fever-haunted dens are allowed to exist in their midst, from which zymotic diseases may originate or intensify. Such a breeding ground for this form of preventable disease seems to exist in Dove-court, Leather-lane, and an inquest has recently been concluded on one of the inmates, who succumbed, as the jury found, to the influence of improper feeding, accelerated by the insanitary surroundings. The medical man, Dr. Price, who gave evidence, spoke as to the filthy condition of all the houses in the court except No. 7, which was properly looked after, and in which no case of illness had occurred for some time; but from all the others he had had cases of typhoid, small-pox, pyæmia, and ulcerated mouths. Turning from this unsavoury state of affairs, it is satisfactory to note that dwellings for

artisans are being erected in Vine-street and Tooley-street, which, when completed, will accommodate 400 families, and also that, owing to the enterprise of the Improved Industrial Dwellings Company, buildings for the accommodation of about 1,400 persons of the working class are to be erected at Islington and the Borough. This is, undoubtedly, a gleam of light on an otherwise dark picture; at the same time it must not be forgotten that these dwellings are of really little advantage to the very poor, being occupied mostly by the artisan class who earn fair wages. In order to improve the condition of the tenements of the latter, the hands of the sanitary authorities should be further strengthened, a more rigid system of inspection instituted, and landlords compelled at least to provide and maintain in working order the essential sanitary appliances.—*Lancet*.

## REVIEWS.

*The Truth about Opium*, by William H. Brereton (W. H. Allen & Co.).—This book consists of a series of lectures delivered by the author in Hong-Kong, and was written with the object of exposing "the mischievous fallacies disseminated by the *Anglo-Oriental Society for the Suppression of the Opium Trade*." The author's production, which contains 275 pages, is a remarkably exhaustive work, and must have cost him enormous time and labour. The conclusion one feels tempted to arrive at after carefully reading the volume, is that it will go a long way towards breaking up the Anti-Opium League, whose objects, as stated by the author, are as undeserving of support as they have proved to be mischievous in their tendency. The book ought to be read by all who are interested in the question, and just at the present time is most opportune.

*Life and Mind on the Basis of Modern Medicine*, by Robert Lewin, M.D., edited by Thalassoplektos (Watts & Co.). This little book with so large a title consists of thirty-four pages of text, by Dr. Lewin, and forty-two pages of preface and appendix by Thalassoplektos. One is tempted at first to suppose that Dr. Lewin and Thalassoplektos are one and the same person, for both call themselves ideal-hylozoists, and it is difficult to believe that there are two Ideal Hylozoists in the world. But by careful reading one discovers a difference in style between the two writers, and that it is Dr. Lewin and not Thalassoplektos who is responsible *e.g.* for the words "mentation," "to sensate," "orgasm," "egoity," and "Hylotheism," used, as he is careful to inform us, in the sense of "self-idolatry." Dr. Lewin is apparently a gentleman with a certain amount of somewhat desultory reading. We find in his pages and in those of Thalassoplektos many references to Anaxagoras, Demo-

critus (spelt Demokritos), and Protagoras, though nearly always with a significant mention of the *excellent commentary* of the late Mr. Lewis; and sundry quotations are inserted in the text from Lucretius, Goethe, &c., all of which, however, seem to have been quoted before by other writers. He appears also to have made up his mind with a remarkable decision upon a very large number of subjects. But Dr. Lewin is absolutely without that literary skill by which alone a book written without original research, and on a subject widely debated, can justify its existence. He is content to record a series of isolated judgments upon materialism, revelation, &c., without condescending either to convince or instruct his readers by stating the grounds on which those judgments have been formed; and at the same time he leaves an uncomfortable feeling that he must have formed them very shortly after reading the treatises of writers perhaps better known than himself. He shows some glimpses of scientific method when, while travelling over well-known ground, he examines the way in which abnormal cerebral conditions may have produced effects like the Day of Pentecost or St. Paul's conversion; but without stating how far he intends his method to be applied, he flies off into a long digression on the queer interpretation which he is pleased to assign to the phrase "heirs of immortality." He then concludes with ten "theses," some of them awkward platitudes and others dogmatic statements, which he could not possibly support if he confined himself to his own *canons of philosophic method*, followed by a mysterious prophecy, apparently referring to the effects of the Berlin Treaty. It is this pamphlet, as disjointed as a school-boy's first letter to his mother, and as full of hideous neologisms as a Bengali examination paper, of which Thalassoplektos speaks in terms of such unmeasured admiration in his preface and appendix. It had been some time out of print, and Thalassoplektos, who says that he was indebted to it—as the present writer is also indebted—for his first acquaintance with Ideal-Hylozoism, asked "permission to be allowed to superintend the publication of another edition." His share of the work consists of a running commentary of alternate panegyric and explanation, interspersed with occasional invective directed against the present Archbishop of Canterbury, Gautama, Professor Huxley, and a variety of other persons and things.

*The Young Doctor's Future; or, What shall be my Practice*, by E. Diver, M.D. (Smith, Elder, & Co.)—This useful manual is concisely written, and contains much valuable information regarding the medical departments of the army, navy, mercantile marine, and Indian service, together with a description of private, poor law, and hospital practice, which is worth the attention of those about to enter the profession.

## CORRESPONDENCE.

To the Editor of THE FAMILY DOCTOR.

SIR,—Will you be good enough to inform me what are the particular aims of Dosimetric Medicine? I have searched in vain for some description of the system, but cannot find anything of the kind. The articles which appeared in your columns not long since on the subject by Dr. Burggraave, of Ghent, did not give me what I seek. I know of Homoeopathic medicine and Eclectic medicine, but I cannot find a proper definition of Dosimetric medicine. If you can inform me, I shall be obliged to you.

I am, Sir, yours truly,

Puzzled.

[Our correspondent is referred to Dr. H. A. Allbutt, Russell Lodge, Sheepscar Street, Leeds, who, we feel sure, will give all the necessary information, if applied to.—Ed.]

To the Editor of THE FAMILY DOCTOR.

SIR,—I beg to call your attention to that of your readers to the accounts recently published in the daily papers of June 8th, of the inquiries held by the coroner into the causes of two deaths from improper medical treatment, and to warn the public, through your columns, of the danger of applying for advice to any "dispensary" that does not possess a properly constituted committee of management. It is not a difficult matter to find this out. If a man wishes to apply for advice to a dispensary, he has only to knock at the door and ask to be supplied with a book of rules and a list of the committee men. If these are not forthcoming, he may safely suspect some trickery. There are numbers of these so-called dispensaries which are simply and solely the private concerns of unprincipled registered medical practitioners, who as a rule employ unqualified and ignorant men to take charge of them.

I remain, Sir, yours obediently,

AN HONORARY SECRETARY TO A PROVIDENT DISPENSARY.

*Enquirer*.—Dr. Samuel C. F. Hahnemann was the originator of the homoeopathic system of medicine. He was born 1758 and died 1843.

*Dr. W. L.*—We have not received the communication you allude to.

*Presto*.—Too long and quite unsuitable for our columns.

*J. W. S.*—There should be no direct communication between the sink and the main drain. Consult Dr. Teale's *Dangers to Health* (Churchill), in which you will find all you require.

For parasitic skin affections we can recommend News-holme's Tar and Sulphur Soap (Sheffield).

The following books, &c. have been received:—*Harrogate and its Waters*, by George Oliver, M.D. (H. K. Lewis); *Practical Biopathy*, by Edward Haughton, B.A., M.D. (Wade & Co.); *La Bourboule*, by G. H. Brandt, M.D. (H. K. Lewis); *Disinfectants and How to Use Them*, by Edward T. Wilson, M.B., F.R.C.P. (H. K. Lewis); *Report of the Association for the Oral Instruction of the Deaf and Dumb*; *Journal of Dosimetric Medicine*; *The Voice*.

All letters and other communications for the Editor should be addressed to him at the Publishing Office, and will be considered as private communications for himself. If for publication, they should be written legibly, and on one side of the sheet only.

Communications relating to subscriptions and advertisements should be addressed to the Publishers.

No notice will be taken of anonymous communications unless authenticated by the name and address of the author, which need not necessarily be published.

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## THE FAMILY DOCTOR.

## FRENCH HEALTH RESORTS AND SPAS.

## ARTICLE V.

By HERBERT JUNIUS HARDWICKE, M.D., F.R.C.S., M.R.C.P., &c., Hon. Physician to Sheffield and South Yorkshire Ear and Throat Hospital, and to Sheffield Public Hospital for Skin Diseases.

IN describing the French Health Resorts and Spas, I intend to include those of the French provinces of Corsica and Algeria, as well as the only two of French-speaking Belgium. It is almost impossible to describe the climate of France without dividing it into sections, for the extent of territory is so great and of such a varied character, that the most opposite kinds of climate are met with, from the almost tropical one of Nice to that of bleak Dunkirk. France lies in the temperate zone, between the isothermal lines of 50° and 60°, and covers 8° of latitude. The south-east part, which lies along the shores of the Mediterranean sea, has the warmest and most equable climate, and is well-protected from the north winds by the chain of the Alps. The south-west portion is the next warmest and most equable, but has a rather large amount of rain in the year. The central and northern parts have not such equable climates, but are tolerably dry. In Paris the heat in summer is often intense, and the frost in winter equally so, but the general absence of moisture makes both extremes less felt than they otherwise would be. On the whole the climate of France is about the best in Europe, and is often described as salubrious, serene, and bright. There are upwards of one hundred health resorts and spas in the country, the principal ones of which will be each separately described.

The climate of Belgium is somewhat similar to that of the north of France, but has rather more moisture in its atmosphere.

Algeria has a very different climate to that of France, and certain parts of it are much favoured in

winter on account of their value as health stations. It is bounded on the north by the Mediterranean and on the south by the great Sahara desert, and its surface consists of a series of mountain ranges, the Atlas, and by the valleys formed by them. From the month of November to that of May, the hot atmosphere from the desert being constantly brought in contact on the Atlas mountains with the moist atmosphere from the Mediterranean, causes frequent and copious downfalls of rain into the valleys beneath; but in the summer months the air is intensely hot, and the moisture from the Mediterranean, instead of being cooled down and deposited as rain, passes away over the mountains, leaving behind it a parched and thirsty land. During the summer nights, however, there are heavy dews, which make things somewhat better than they otherwise would be, but even these are often absent when the hot wind called the scirocco blows from the desert. Thus for six months of the year Algeria is a fertile and pleasant country, while for the remainder it is intolerably hot and dry.

Corsica, being an island, has a very equable climate, the value of which is further enhanced by a double range of mountains which run from north to south, and which completely protect the western portion of the island from the scirocco, which blows from the south-east and is loaded with fine sand. From the base of the western range, a number of smaller ranges run in a westerly direction, forming deep and lovely valleys, thoroughly protected not only from the scirocco, but also from the north winds, and consequently having a very warm and equable though moist winter climate. There are several health resorts in the island, which will now be enumerated, with those of France, Belgium, and Algeria, in alphabetical order.

ARREST is a small alkaline spa adjoining the much larger one of Vichy.

AIX-LES-BAINS is a very celebrated and fashionable French spa, situated 790 feet above sea-level, in Savoy, close to the Lake of Bourget in the beautiful scenery of the Alps, on the railway from Lyons or Geneva to Mont Cenis, and fifteen hours from Paris *via* Macon. The springs are very rich sulphurous waters of a high temperature, ranging from 107.6° to 118° F., and the arrangements and methods are perfect. Separate baths, common baths, every variety of douches and vapour baths, steam baths, and inhalation rooms abound, with a plentiful supply of water. During the season from May until September, the population of the little town of 4,000 inhabitants is increased to 14,000 souls, and is quite as fashionable as the most frequented of the German baths; in fact, it is then so crowded that people have frequently to take their baths between two and three o'clock in the morning. The thermal establishment consists of a splendid granite building

on the side of the hill, supplied by two springs, and containing upwards of three hundred baths of every variety. Close by are the ruins of the ancient Roman baths, and in the mountains near the town are enormous and lofty caves, from whence come the warm sulphurous waters, which contain small quantities of the carbonates of lime and iron, the chlorides of calcium and magnesium, and the sulphates of lime, magnesia, and soda. They are valuable in chronic rheumatism, enlarged joints, rheumatic gout, and especially in chronic skin diseases.

AJACCIO is situated on the north-west side of a beautiful bay on the west coast of the island of Corsica, of which it is the capital town, facing due south, and being protected from the north, north-east, east, and south-east winds, by the mountains which rise at a distance of twenty miles from the town, and are slightly capped with snow all the year round. Owing to its protected situation, it has a particularly mild and equable climate, and is one of the loveliest spots in Europe, but is exposed at times to the strong south-west winds from the Mediterranean, which often blow with great violence. The climate is very similar in winter to that of Algiers, but in summer is far preferable to it, though both are unsuitable as residences for invalids except during the winter months, and then only for such as require *moist* mild climates.

ALGIERS is a large city occupying the western extremity of a beautiful bay on the southern shore of the Mediterranean, and faces the north. It has a very French appearance, sometimes giving one almost the impression that it is Paris itself instead of Algiers. The best and healthiest parts of the town are the eastern suburbs, called Mustapha Superior and Inferior, which are built on the slopes of the hill at the back of the town, the Sahel. The climate of Algiers, although a remarkably warm one in winter, has many drawbacks. In the first place it is exposed to the north, north-east, and north-west winds, which, although sea winds, are yet sometimes very cold; and in the second place it is a very moist climate indeed, and totally unsuitable for invalids requiring a dry atmosphere. The scirocco, moreover, which in summer is so hot, in winter is often very cold, from passing over the snow-capped Atlas mountains. The mean annual rainfall is about 36 inches, and of this six-sevenths, or about 81 inches, fall in the winter months; and there are generally about 90 rainy days in the year, mostly, of course, during the winter months. The mean summer temperature is about 75°, and the mean winter temperature about 57°.

ALLEVARD is a cold sulphurous spring situated in an Alpine valley, about 1,450 feet above sea-level, amidst beautiful scenery, near the Grenoble railway. The waters contain a good amount of carbonic

acid which makes them very valuable; and the principal cases that derive benefit from their use are affections of the breathing apparatus. There is a whey cure establishment here.

AMELIE-LES-BAINS is a small village containing about 800 inhabitants, and lying 700 feet above sea-level, in the department East Pyrenees, close to Arles, on the route from Perpignan to Barcelona, from the former of which it is reached in four hours by carriage. It is built in a semi-circular form, at the foot of a hill on the right bank of the river Tech, with lofty masses of rocks overhanging it, from which streams flow, and is one of the most rising of southern French health resorts, being suitable in summer to those who require thermal sulphurous waters, and in winter to those who require a mild climate. There are several thermal establishments at which chronic rheumatism, skin diseases, neuralgia and sciatica, kidney affections, and female complaints are principally treated. Also hot inhalations, vapour baths, and steam baths may be had if required. The temperature of the waters varies from 92° to 145°.

AMPHION is a small spa lying near the lake of Geneva, not far from Lausanne, having waters of the indifferent class, which are said to be useful in neuralgia and indigestion.

ARCACHON is a very pretty town about thirty-two miles from Bordeaux, near the Bay of Biscay, with which it communicates by a narrow channel. It consists of a large number of isolated dwellings, with mangolias, oleanders, and orange trees around them, making the place look like a huge cluster of Indian bungalows, and with the small inland bay upon the shores of which it stands is surrounded entirely by pine forests, between which and the town chalets are built on the sides of the sandstone hills for the reception of invalids. The climate is remarkably mild, the thermometer (F.) rarely falling to freezing point, and then only close to the beach, and the force of the winds is broken by the forests, which give quite a balsamic odour of turpentine to the atmosphere, making the place of considerable value in pulmonary affections. There is a rather large amount of rain, and the atmosphere is generally moist. The climate here is somewhat similar to that of Bournemouth.

AUTEUIL is one of the western suburbs of Paris, near the Bois de Boulogne, and possesses springs containing sulphates of iron and lime, and a little hydro-sulphuric acid. They are considered to be very tonic, and are much used by the Parisians.

Ax, in department Ariège, Eastern Pyrenees, about 2,800 feet above sea-level, possesses the hottest waters in the Pyrenees, and the largest supply of thermal sulphur waters in Europe, which are subject to rapid decomposition. There are three bathing establishments in the village, which is a miserable

place, but has fair accommodation for visitors and is well situated.

BAGNÈRES DE BIGORRES is a very old town of 10,000 inhabitants, situated at the foot of the mountains in the valley of the Adour, and between the valleys of Tarbes and Campan, in the Pyrenees, and may be reached in thirty-six hours from Paris by railway *viâ* Bordeaux. It is one of the most popular of French baths, and its bathing establishments are admirably arranged, and on a large scale. Its aspect is decidedly Spanish, the climate mild, and the streets clean, narrow, and winding, with every third house an hotel. There is a large supply of thermal earthy water, and of thermal saline sulphurous water, the town being built over a subterranean thermal stream, from which numerous springs issue. These vary considerably both in their temperatures and in their properties, the waters of "La Reine" and of "Lasserre" being mildly laxative and stimulant, whilst those of "Foulon," "Petit Barèges," and "Salut," act as sedatives to the nervous system. The complaints usually benefited here are chronic mucous discharges from the lungs and other organs, anæmia, constipation, dyspepsia, and enlarged spleen and liver.

BAGNÈRES-DE-LUCHON, in department Haute-Garonne, is one of the most beautiful of the Pyrenean spas, close to the Spanish frontier, and may be reached in forty hours from Paris by rail *viâ* Bagneres-de-Bigorre. It has a very mild climate, is beautifully situated in a wide valley, 2,000 feet above the sea-level, and has upwards of thirty thermal sulphur springs, varying in temperature from 68.5° to 192.8°, besides one chalybeate and one acidulous spring. The bathing establishments are excellent, the life is agreeable and amusing, the accommodation for visitors better than at most of the neighbouring spas, and living comparatively cheap and good. The complaints benefited by the waters are skin diseases and affections of the nervous system.

BAGNOLLES-DE-L'ORNE is situated in the middle of a large forest in Normandy, about an hour's drive from the nearest railway station, and has large well-appointed bathing establishments, with sulphur waters of a temperature of 80.6° and chalybeate springs without much carbonic acid. The diseases treated here are skin diseases, dyspepsia, enlarged joints, and neuralgia.

BAINS is a very small and quiet spa near Plombières, with two bathing establishments and indifferent thermal waters, precisely the same as those of Plombières. For people who prefer a quiet place to a more fashionable one this place is very suitable.

BALARUC-LES-BAINS is a small spa about fifteen miles south-west of Montpellier, having thermal, alkaline, and muriated springs, with a temperature of 118°. It is situated on the edge of a salt lake,

and has establishments for vapour baths, douches, mud baths, &c. The climate is mild and equable, and paralysis is the chief complaint treated.

BARÈGES is a small village, made up of one long street, overhanging a mountain torrent, called the Gave of the Bastan, and, although a wild and desolate spot, is the most celebrated of the Pyrenean baths. It is situated in the department Hautes-Pyrénées, about 4,000 feet high, has a rough, variable climate, and a scanty supply of water. In winter not only the visitors but the regular inhabitants have to emigrate to a warmer and more genial climate, and were it not that the waters have an enormous reputation, there would hardly be a single resident in the village. There are nine thermal sulphurous springs here, the temperatures of which vary from 86° to 112°, and whose waters contain a great quantity of barégine, a nitrogenous organic and gelatinous substance which is found in nearly all thermal sulphur springs, and which derives its name from Barèges. These waters are reported to be the most exciting of all the Pyrenean baths, and are said to be of great service to paralytics, who swarm the place in summer. People suffering from diseased bones and old wounds, rheumatism, neuralgia, and eczema are also said to be much benefited. The saline matters found in the waters are sulphates of soda and lime, silica, chloride of sodium, and small quantities of iron and iodine.

BASSÈRE (LA) is a small spa four miles from Bagneres de Bigorres, in the Pyrenees, possessing a cold sulphur spring.

BASTIA is the largest and most prosperous town in Corsica, and possesses a remarkably mild, though humid, winter climate. Owing to its situation it is hardly suitable to all cases of consumption, as it faces due east, and thus is exposed to cold winds in winter, as well as to the scirocco all the year round. It is, however, a very charming sea-side residence, with a mild and equable moist winter climate, a good hotel, and several well-educated French physicians.

BAUGHE (LA) is a new spa, near Les Echelles, and not far from Chambéry, in Savoy, 1,500 feet above the level of the sea, and possessing a pure and strong chalybeate well, but with no carbonic acid.

BERCK-SUR-MER is a small sea-bathing village in Picardy, about nine miles south-west of Montreuil, the climate of which is celebrated in the treatment of scrofula.

BEX is situated in the valley of the Rhone, in a very sheltered situation, on the Lausanne-Sion line, not far from the Lake of Geneva, 1,380 feet above sea-level, and possesses a mild refreshing climate, with beautiful promenades, a grape-cure establishment, and very strong cold sulphur and muriated springs. It is highly recommended for delicate lungs in the early spring, both on account of its mild climate, and its cool baths.

BIARRITZ is a very fashionable watering place, six miles from Bayonne, and within a journey of five hours from Bordeaux, and is celebrated as a resort for consumptives in the autumn, but, on account of its large number of rainy days (120 annually), its humid atmosphere, and its liability to storms and frequent and sudden changes of temperature during the winter and spring months, it is at these seasons of the year totally unsuitable for pulmonary invalids.

BISKRA is an Algerian spa, situated in an oasis of palms, about two days' journey from Constantine. The climate is hot in summer, but in the winter, which is the season, it is very agreeable. The waters are indifferent thermal, and sulphurous. There is a good hotel at the spa.

BOURBON L'ARCHAMBAULT, thirteen miles from Moulins, is a rather dull and uninteresting spa, possessing weak thermal muriated saline and chalybeate springs, celebrated in the neighbourhood for the cure of rheumatism, paralysis, gun-shot wounds, and eye diseases.

BOURBON LANCY is a short distance from Moulins, and was once a favourite resort of royalty. It possesses thermal muriated saline springs, and an enormous establishment with a vast swimming bath, which is rapidly tumbling into decay, owing to its being almost entirely neglected and deserted.

BOURBONNE-LES-BAINS, in the Haute-Marne, is the French Wiesbaden, and one of the chief thermal muriated saline springs in the country, its waters containing (per pint) 46 grains of chloride of sodium, and 6 cubic inches of carbonic acid, and having a temperature of 188° 2". The chief uses of the waters are in cases of chronic articular rheumatism.

BOURBOULE (La) is situated in the Auvergne, 2,600 feet high, four miles from Mont d'Or, and about four hours' drive from Clermont-Ferrand. It has several alkaline muriated thermal springs, varying in temperature from 54° to 125°, and containing in various proportions the carbonates of soda and magnesia, chloride of sodium and sulphate of soda, with a small quantity of arsenic. They are useful in paralysis, thickened joints, congested liver, and intermittent fevers.

CANNES is a seaport town, in department Alpes-Maritimes, seven miles south-east from Grasse, on the road from Toulon to Nice, from which it is about twenty-one miles. It is situated at the extremity of the magnificent Bay of Cannes (or Napoule), in a wonderfully beautiful spot, being surrounded by pine forests and a peculiarly luxuriant vegetation, of which a large portion consists of odoriferous plants and flowers. The plain on which the town stands is enclosed on the north and west by the Maritime Alps and the Estrelles, which barrier protects it from the north-west, or mistral wind, which is so violent in March; but on the east the mountain

chain is incomplete, leaving the place entirely exposed to the prevalent east and south-east sea breezes; the Lérins islands protect it from the south winds. The population of the town is 8,000, which is increased during the season, from November to March, by 2,500 visitors, and the principal street is built along the high road to Nice, being separated from the coast by a public promenade, above which, on the hill, are the ancient church of Notre Dame d'Esperance, and the splendid castle of the Duke de Valambrosa. The climate is moderately warm in winter, and very equable, the mean annual temperature being about 60°, whilst that of the winter is about 50°, spring 62°, summer 71°, and autumn 55°. There are fifty-two rainy days in the year, being twelve more than at Hyères, and eight less than at Nice, but the annual rainfall at Cannes is only twenty-five inches, being two inches less than that of Hyères, and the same as that of Nice. It is said that Cannes owes its fame as a health resort to the strong electrical condition of its atmosphere, which renders the climate so very exciting, and so valuable in cases of consumption where there is low vitality and nervous debility. The bay of Cannes is divided into an eastern and a western portion, the former more sheltered than the latter, which, however, is more attractive on account of its beauties and lovely gardens. Le Cannet, a small village up the valley from the eastern bay, is very sheltered, and much preferred by those who require shelter from wind.

CAUTERETS is a much frequented sulphur spa in the department Hautes-Pyrénées, situated about 3,200 feet high, in a lovely valley on the banks of the Gave, between snow-covered hills. The houses are built on each side of a long narrow street, divided by the large square containing the Hotel de Paris, from which a footpath leads up the hill to the thermal establishment, which is replete with all modern improvements, and supplied from the mineral springs on the hill. The springs are twelve in number, varying in temperature from 86° to 181°, and are divided into two groups, *les sources de l'est*, and *les sources du midi*, differing from each other but slightly. They contain sulphuret of sodium, sulphate of soda, chloride of sodium, silica, and small quantities of sulphuretted hydrogen, being therefore sulphurous thermals, and are useful in pulmonary affections, especially chronic bronchial catarrh, for the cure of which the Raillère spring has quite a reputation. The season lasts from May until October, and besides the value to be obtained from the use of the waters, the greatest fun is to be had in watching the crowd of visitors, of all nationalities, daily climbing the hill, in all kinds of conveyances, to reach the establishment, and making pic-nic parties into the remote recesses of the Pyrenees close at hand.



CHALLES, two miles from Chambéry, although possessing no establishment, yet possesses the strongest sulphur-well known, containing iodide of potassium, bromide of sodium, and sulphuret of sodium. These valuable waters are exported.

CHAUDFONTAINE, the first Belgian spa on the route to Cologne, about fourteen hours from London, is a lovely little place, possessing indifferent thermal waters, somewhat similar to those of Buxton. It is more frequented on account of its lovely scenery than for its waters.

CHAUDS AIGNES is situated in a gorge separating Auvergne from Gevaudan, and possesses weak thermal alkaline springs, having a temperature of 143° to 178°, and which are much thought of in cases of rheumatism and enlarged joints.

CONTRÉVILLE, in the Vosges, may be reached in twelve hours from Paris to Neufchâteau, and thence by coach. It is situated in a narrow valley, 1,000 feet high, and possesses three cold earthy springs, the principal one, *la source de Pavillon*, containing large quantities of sulphates of lime and magnesia, besides a little of the sulphates of soda and potash, and the chlorides of sodium, potassium, magnesium, and traces of iodine, strontium, and arsenic. It is celebrated as a resort for those suffering from gravel and gout.

CRANSAC is a small spa situated in a lovely valley in Auvergne, close to an ancient volcanic hill, which even now emits sulphurous fumes. The waters are earthy, and contain large quantities of alumina and sulphates of lime and magnesia, with a little manganese. They have a great reputation in liver and spleen enlargements, but the majority of visitors inhale the hot sulphur fumes, which are evolved into the interior of large caves excavated out of the volcanic hill close by.

DAX is a very ancient town in the Landes, situated on the Adour, between Bordeaux and Bayonne. The springs are very powerful thermal indifferent waters, containing sulphates of lime and soda, with a little chloride of sodium and carbonate of magnesia, and are said to be useful in the treatment of rheumatism. The fountain of *Nelse* has been in high repute since the tenth century, but latterly the place has been deserted, except by the people of the district, who surround the front of the basin containing the principal spring water, and which has a temperature in the basin of 125°, and in the spring of 156°, in the early morning, and drink a long draught, after which they fill their tin vessels, which are strapped across their shoulders, and return to their houses. This proceeding is repeated day after day by the Dax people, who now have the place all to themselves.

(To be continued.)

## CONSUMPTION: ITS CAUSES, SYMPTOMS, AND SUCCESSFUL TREATMENT.

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(Continued from page 92.)

### SYMPTOMS OF CONSUMPTION.

THE *Expectoration* following the dry cough is at first scanty, but the transition from the first to the second period of the disease is marked by a notable change in the aspect and form of the expectoration. Instead of being white mucus, and containing bubbles of air, it acquires a yellowish-green tint, becomes opaque, ceases to contain air, and is moderately copious. This is on account of the tubercles becoming softened, and a greater disorganisation of lung tissue having taken place. Frequently in the expectoration is found particles of white opaque matter resembling boiled rice. After a variable time the expectoration becomes more solid, sometimes sinking in water, sometimes floating on the surface of the clear fluid which is expectorated with it. The yellowish-green colour after a time gives place to a dirty drab tint, similar to that found in cavities of old standing; this, I have found, generally occurs during the closing days of life. Should a blood-vessel be destroyed by the disease, or should rupture of one take place from the strain of coughing, it will be tinged or streaked with blood (or a large quantity of blood may be coughed up). As the disease advances the expectoration becomes more like pure pus. The quantity varies greatly at different periods of the disease. When the disease is rapid there is abundant expectoration in the first stage, the patient filling one or two ordinary spitting-cups in the twelve hours, so that a patient may expectorate his own weight in the course of a few weeks. Frequently we meet with a peculiarity in the expectoration, consisting of white chalky-looking particles, which, if taken between the fingers and rubbed, form an opaque fluid precisely similar to that which would be produced by rubbing pure chalk with mucus. This is termed *cretaceous expectoration*. If these particles be detached from the sputa and allowed to dry, they form into small rough granules of a white colour, very much resembling chalk. They vary in size from a pin's head to a small pea. I have noticed this form of expectoration to occur in every stage and condition of phthisis.

*Hæmoptysis* (spitting of blood) is a very frequent but not invariable symptom of phthisis. I find it occurs in about two-thirds of the cases. In some instances it is the first symptom to alarm the patient, and its occurrence immediately before or after a cough points to lung mischief. There are, however, some cases that pass through the different stages

and proceed to a fatal termination without the occurrence of hæmorrhage. Such cases are in the minority, it being a common symptom at some period or other in the progress of the disease. This bleeding may be considered severe when in from one to three or four hours the patient loses three or four ounces of blood; and slight when the sputa is simply streaked or tinted with it; in the latter form it frequently lasts for some months. It is a point of great interest to decide whether the spitting of blood before the occurrence of cough or expectoration points to the fact that tubercles will in all probability form in the lung, or that they have already formed. I have most carefully considered this matter, and am satisfied that where a patient has more or less severe hæmorrhage (unless such hæmorrhage be the result of an accident, or in the case of females where the catamenia have been suddenly suppressed), no matter when its appearance, that it most decidedly points to the actual presence of tubercles in the lungs. Many writers, whilst admitting the fact that hæmoptysis is much the most frequent consequence of tubercular deposition, yet think it is principally a symptom of a general disease. It may be so, but my experience leads me to think that even if such be the case, it is a fortunate exception occurring only in *very very* rare instances. The argument that many persons have had attacks of hæmorrhage at some period of their life and subsequently recovered, without any serious symptoms, is not convincing, for it is not a *very* uncommon thing for persons who have a cavity in one of their lungs to be utterly unconscious of it; they have no cough, no expectoration or other symptom which would lead them to imagine their lungs were diseased. And how frequently we find on the post mortem table evidences of disease of the lungs where no suspicion of the fact had been entertained during life. Such cases are not, of course, very frequent; but, as I have stated, do occur occasionally. I therefore argue that, unless there has been repeated and *very careful* examinations of the chest made in these cases of hæmorrhage, they afford very insufficient proof that it occurs independently of tubercular mischief. I look upon blood-spitting, however slight it may be, of fearful significance, as indicating the approach of consumption. It is very rarely the immediate cause of death, and as far as I have been able to judge, scarcely ever tends to shorten life; in fact, amongst the patients who have been cured I find by far the greater majority have had blood-spitting. If we ask, What is the cause of this hæmorrhage? the answer will be, Anything which causes an obstruction to the free passage of blood through the capillary circulation of the lungs (that is, the fine network of very small vessels interposed between the finest branches of the arteries and commencing veins). At every impulse

of the heart a certain amount of blood is pumped into the lungs to be distributed over the air cells; and as we know the action of the heart cannot be stopped without loss of life, it will be seen that a continual and steady stream of blood is passing from the heart to the lungs. As I have before explained, where the lungs are healthy this blood becomes oxygenated, returns again to the heart, and is then sent to nourish the whole system; but if the lungs be the seat of tubercular deposit, or the bronchial tubes become obstructed with mucus, these fine blood-vessels become also obstructed, as also the air-vessels. The result of this is that the blood (now impure) is impeded in its flow, and produces what we call congestion; that is to say, the vessels are full almost to bursting, precisely similar to the eye when it is blood-shot. After a longer or shorter duration of this condition the vessels relax, allowing the blood to gradually ooze through their coats, and it is expectorated, the quantity of blood of course depending upon the amount of congestion present; but no matter how slight, it is at least a certain sign that the lungs are not in a healthy condition, and it is the duty of the physician to most carefully determine its cause and effect its removal. It is a very frequent error to imagine that the blood comes from a broken blood-vessel. Many medical men, even, entertain this idea, but the blood merely oozes through the coats of the artery; for should a blood-vessel of any size actually burst, as we have no means of applying a ligature or any local styptic, it is therefore clearly evident that the patient must of necessity bleed to death. Such cases do occur, but fortunately, as just mentioned, are exceedingly rare. The reader will now, I think, clearly see with me that this blood-spitting is a most alarming symptom, pointing to the progress of a treacherous and what has hitherto been imagined a fatal disease. The cessation of bleeding is no assurance of safety to the patient; in fact it seldom lasts for very long (not more than a few days), and, on the other hand, its re-occurrence does not prove that there is any increased danger. Its *cause* is in the lung itself, and unless we attack it there and lay hold of the evil by its root, little avail is it whatever else may be done. Many persons deceive themselves, and very frequently medical men are themselves deceived, by imagining the blood comes from the gums or throat; the patient is only too willing to believe this, and will frequently really think the throat is sore; but let me warn you against this. If blood be coughed up, depend upon it, it comes from the lungs, no matter *how small* the quantity, so that to delay is but to dally with danger. In most instances it is a comparatively early symptom, so that its cause can be arrested. But it is useless treating the *symptom* alone—this is the great error so many commit. The bleeding, they say, "must be stopped," and remedies

are given for that single purpose, may be with effectual result; but of what avail is it if the actual *cause* of it be still left? None at all; in fact, the patient is worse off than before, for the disease has been advancing all the time when it might have been partially eradicated. Let the *cause* be removed and the symptom *must* disappear. As we have seen, there are some causes of blood-spitting other than consumption, viz. injury to the lungs, some organic disease of the heart, and in females owing to irregularity of the monthly flow; but if the symptom occur in any person where none of these causes exist, let the reader be sure the lungs are unsound.

*Dyspnoea* (shortness of breath).—In almost every case of consumption the respiration becomes more or less hurried and enfeebled, producing this symptom which, in extreme cases, is most distressing; the patient being unable to walk a few steps, or read a few lines, without pausing to take breath. Such cases of *extreme dyspnoea* are, however, comparatively rare, and principally occur where the disease is complicated with pleurisy, or inflammation of the lungs. It varies in proportion to the capacity of the chest, but is no correct guide as to the actual amount of mischief which has taken place in the lungs, for in some instances there is very considerable disease, yet little or no dyspnoea, whilst in others it is a prominent and troublesome symptom, although the lungs are but slightly affected. It is usually first noticed after some slight exercise, as for instance, walking up a hill, or up stairs, running, &c.; at first it is so slight that the patient does not notice it, but as the pulmonary tissues become more deeply affected, it is usually complained of. In nearly all cases this oppression of breathing is referred to the middle of the chest, no matter what amount of difference exists between the mischief in the two lungs. With this shortness of breath, the pulse becomes accelerated, and the temperature of the body rises.

*Pains in the chest* are very common, and is a local condition to which attention should be directed, as it not infrequently precedes all other symptoms in the early stage of consumption. It is not, however, a symptom which distresses the phthisical patient most, in fact some patients are altogether free from pain, or only complain of it when their attention is drawn to the subject; but the majority of patients suffer from pain either between the shoulders or in the sides of the chest. As a rule, movement does not influence them, although sometimes they become aggravated by it. They occur at various periods of the disease, in some cases only two or three months before death, although cough and expectoration may have existed for two or three years; in others, as I have just stated, they are the first symptom, or at any rate I have frequently had cases where the patient has consulted me for pain in the chest, and

where symptom has been added to symptom until the evidences of the early stage of consumption have become marked; whether, therefore, it is one of the actual symptoms of the disease, or whether it *induces* other symptoms, is a very nice point to determine. There can be no doubt that this symptom, affecting as it does the inspiratory and expiratory muscles, tends to diminish the action of the lungs, and so lessen the movements of the chest, a condition which I have already shown is essentially connected with the early stage of consumption. I myself incline to this belief; at any rate, it is best, if we err at all, to do so on the right side. It at least shows how important it is to adopt every method for their speedy removal. I find the pain, where present, is not proportionate in severity to the amount of mischief in the lungs, and that where cavities exist at the apices, the pain is either absent or greatly modified, even though the excavations are of a large size.

These pains seldom remain fixed, but are of a wandering character, being felt one day in a certain spot, and the following day in another. They are frequently regarded, not only by the patient but by the medical man, as rheumatic; and this more especially when they occur in the shoulders, because then they are increased by movement. Frequently pain is induced by percussing the chest, more especially if the side percussed is extensively diseased; in fact, in some cases, so painful is the chest, that the patient can hardly bear the gentle application of a stethoscope.

(To be continued.)

## A FEW NOTES ON CREMATION.\*

By W. EASSIE, C.E.

BEFORE noticing Cremation, and in order to value it properly, I think it wise to consider a few groups of corpse-disposal, and the probable motives which led to them. These would be (1) simple burial, as among ourselves, in coffins, with a view of hiding the dead out of sight, and never again disturbing them, if possible. These burials may be in basket-work or simple shrouds, as is still customary in parts of Ireland. Burials in the earth are sometimes peculiar, however, as for instance in Bali, in Burma, and parts of China, where the body is kept above ground for months, and even years. (2.) Burial in caves, (a.) as among the ancient Jews, in order that the body might be watched for a certain time, so as to be certain that death had really occurred. (b.) By way of high distinction, as in the case of Chinese Emperors and mighty dead elsewhere. (c.) Compulsory, as in the case of the early Christians in

\* Read at the Somerville Club, June 13, 1882.

Roman Catacombs. (d.) As a protection against wild beasts, a practice common to the ancient Persians, Arabians, and Russians. (e.) To prevent cannibalism, as was until very lately the case in Fiji, where bodies were guarded until putrid. (8.) Burial in huge jars, without burning, as was practised in Japan, Persia, Cochin, and the Troad, in the Old World, and by the ancient people of Missouri in the New World—the jars being covered over with stones. Piecemeal interments of this kind, in jars crowded together, have been removed from before the walls of Rome. (4.) Sea burial, which the late Dr. Parkes considered might suit maritime nations. This is still practised in the Chatham Islands, among the fishermen, as a compliment, and is common in the case of all vessels who meet with a death out at sea. (5.) Embalment. (a.) For religious reasons, as was the case with the ancient Egyptians, who believed that the soul would return to the body after three thousand years. (b.) For monumental reasons, as was practised, for instance, in a petrifactive manner upon the body of Mazzini lately, but without success. (c.) For sundry reasons, noticeable, for instance, in the case of mummies in the British Museum. (6.) Dessication, or the drying up of the body. (a.) Without any intention of disturbing the body afterwards, practised among the ancient Peruvians, where bodies are found dried up in mud cells, and in pyramids measuring, some of them, fourteen millions of cubic feet. (b.) With open exposure afterwards, as in South Australia, where some natives dry the body on the top of their huts by means of fires, and then hide them in trees. (c.) After the removal of the viscera, as among the Aino aborigines, who disembowel the body, wash it daily, dry it, coffin it, and bury it. In Victoria the viscera are removed, the body stretched on a framework, dried, and then buried. (7.) Burial on high platforms, chiefly to prevent destruction by wild beasts, as is the case among the Indians of the Plains in North America, and in the Naga Hills, &c., in India, where the bodies are wrapped in mats and platformed, but in this latter case roofed over. (8.) Exposure. (a.) With the intent to dispose of the whole body without burial, and to get rid of it finally, as amongst the ancient Tyrcanians, who abandoned their dead to wild dogs, the ancient Hindoos to river monsters, and the Kaffirs to wild beasts in the bush. (b.) With the intent of getting rid of the flesh and dealing with the bones, as is the case, for sanitary reasons, among the Parsees of India to the present day upon their “towers of silence.” (9.) Aboriginal burials still in practice. (a.) With after-disturbance of the remains for superstitious reasons, as amongst the Motu in New Guinea. Here the body is interred in an open hole, and after a time taken out and rubbed with clay, the nearest relatives smearing their bodies over with the liquid putridity, after

which the grave is filled up. (b.) For utilitarian reasons, &c., as is the case among the Andamanese, where the bodies are interred or platformed, and after some months the bones cleaned, and either worn as ornaments or made into useful instruments.

The above represent a few methods of disposal of the dead, as practised in ancient and modern times. but it is impossible to give a full list of them, as fresh systems are brought to notice every year by travellers. New proposals are also frequently made as to the disposal of the dead, but they will never pass beyond ephemeral novelties. Among this list may be classed the proposal of a German professor to place the body in a sarcophagus of some kind and pour cement round it; an absurd idea, not so much because the plaster would crack, as because it would require some 82,000 cubic feet of space to accommodate those who are said to die annually per million.

I now come to (10) Cremation of the body, and this process may be sub-divided as under—(a.) Cremation of the body simply upon pyres, &c. as is the case of ancient Greece, Rome, Russia, Germany, Lithuania, Siam, Pegu, India, and Britain in the old world, and among the Cocopa and Digger Indians, &c. in the new world. (b.) Cremation after temporary burial, which is common in Siam, when the resources of the friends are not sufficient at first to pay for the rite. (c.) Cremation of the body and chattels together, as among the ancient Scythians and the Patagonians of to-day. (d.) Cremation with utilization of the ashes, as is the case in Thibet, where the bones of noted priests are burnt, the ashes mixed with clay, and then worked into small medallion figures for emplacement in temples, houses, &c. (e.) Cremation after dessication or embalment, a burial of the ashes following, as is practised among the people of Singpho. (f.) Modern Cremation in retorts, furnaces, and separate crematory chambers, as practised in Germany, Italy, and America. (g.) Quasi-cremation, as, for instance, quick-lime interments, a system resorted to at the present time in the case of interment of Jewish chief rabbis, and in prisons.

The above groups represent the chief methods of disposing of the body in ancient and modern times. And it is wonderful to note how tenaciously the people cling to the kind of observance traditional with them. Take, for instance, cremation in India. When there is not fuel enough, the body is partly burnt and then thrown into the river. The Hindoos will also risk their lives near an enemy's camp in order to collect sufficient fuel to burn their dead comrades. In the Khasi Hills, when the body is not recoverable, the clothes of the deceased are burnt, with some shell money, and the ashes placed in the family repository. In Madras, where fuel is dear, the body is reduced with dried cowdung and wood. In some countries it is only the very poor who are

buried, as for instance in Hindostan and among the Kalmucks. And to come to our own island; excavations near Seaford, in Sussex, in 1876, proved that when a funeral urn was an impossible luxury, the body was burnt on the pyre, the ashes placed in a cloth, and simply pinned together with iron nails.

It is somewhat of guesswork, but not altogether so, to discover the motives which induced the ancients to practise cremation. I think they may fairly be described as under:—(1.) To prevent cannibalism. This may be conceded, for if we have cannibalism now, it must have descended to us from the far off antique tribes of mankind. And this is the reason given for it by aboriginal tribes who practise it at the present day. (2.) To prevent disturbance of the dead by wild beasts. I think that this must have been the motive which led to cremation in ancient Tartary and other nations. (3.) Because cremation effectually dissipated all notions of the spirit haunting the earth. It allowed it to depart at once to its future place of abode. This was, it is supposed, the origin of fire burial among the ancient Teutonic peoples who practised fire burial. The above motives may have been the earliest ones, but, as is very common in other matters, practices are perpetuated for different reasons. Among these may be classed the following:—(4.) For philosophic reasons, as with the ancient peoples of India, who considered that it resolved every portion of the body back to the four elements of which it was composed—earth, fire, air, and water. (5.) From high religious motives, as, for instance, those preached by the older Brahmins, who considered that burning was necessary in order to purify the spirit before entering a new state of existence. (6.) From sanitary motives. This must have been the chief motive, both in perpetuating the custom upon early cremating peoples, and the chief inducement for nations to burn their dead who formerly practised inhumation. In the hot plains of India, where cremation was practised for religious and other reasons, the salutary effect of the pyre was probably noticed by the Phrygians, who borrowed the custom, and introduced it amongst the Greeks, who, up to the year 1500 B.C., practised only burial in the earth. Thence it spread into Gaul, and was discovered by Cæsar as regularly practised there when he warred in that country. Certainly the ancient Greeks burnt the bodies of their dead warriors in immense numbers after a stricken field, for some of the tumuli which I have seen on the Trojan plains have been opened up, and the ashes laid bare. (7.) To prevent insult to the corpse. This is a very self-evident reason, an example of which is furnished by the cremation of the bodies of Saul and his sons at Jabesh.

It is difficult to exactly fathom all the reasons as to why cremation was not universally practised, but

some are not very far to seek. For instance (1), the Egyptians preferred embalming, because of the return of the spirit to the body after a long time. And to mention only one other case, the ancient Persians did not commit the body to the flames, because (2) they were fire-worshippers, and because they held that the practice degraded their Sun deity. And here I may say that I have never come across an instance in which cremation was carried out as a punishment. On the contrary, it was always held up, where practised, as a beneficent and worthy proceeding, so much so, that among the ancient Romans the bodies of infants, and of persons killed by lightning, were never permitted the rite. The reverence for cremation was also carried to such an extent, that the funeral pile has been shaped like an altar, incensed, and an altar afterwards built before the sepulchre.

The reasons why cremation has fallen into disuse here are not far to seek, and came in with Christianity. I agree with the late Professor Rolleston, that no instance of a Christian cremation has been fairly proved in England, although, doubtless, numbers must have taken place in the transitional times. The early Christian priests objected to it, because (a) it was practised by the surrounding pagans, and because they deemed it necessary to draw a strong line between the two faiths. This is said to be the primary motive, and the objection thus made was riveted from (b) the practice of consecrating a space of ground around the churches.

The modern objections to cremation are, as might be supposed, somewhat varied, and they take chiefly a religious tone. Another objection was (a) because it did a certain moral cruelty to the body, which did not deserve penal treatment. This idea was held by Tertullian in the second century. Others object to cremation because (b) it militates against a belief in the Resurrection, and is especially objectionable to those who believe in the resurrection of our present bodies. This is ridiculous, because if so, as the Earl of Shaftesbury once said to a member of the Council of the Cremation Society, what would become of the Blessed Martyrs? And if it be true that our bodies are in a constant state of flux, a man of four-score must have had six or seven bodies, and only the last one raised to incorruption. There are many other objections of a sentimental character raised, among which may be classed the one (c) that cremation would bring about a disrespect to the dead; (d) that it would be a return to Paganism; and (e) that it is an indiscreet mode of disposing of the dead. Another objection is that (f) it is a horrifying rite. This, I confess, I cannot see; and the "Ossianic wail" about "the narrow dark house without a ray," and modern objections to the "cold dark earth," far outnumber such paltry special pleadings. The advocates of cremation are accustomed to regard

that rite with ecstasy, and to speak of being wafted away in chariots of fire, and leaving mother earth in no way the worse for their sojourn with her. To give a sample of another objection, some urge it would be undesirable because, were it really compulsory, it would (g) prevent our filling our Museums and Medical Schools with suitable specimens for future study. But this objection becomes nonsensical when confronted.

The chief and most reasonable objection against cremation, is (1) that it would enable poisoners to commit crime with more or less impunity. This is an objection which can only be overcome in one or two ways, where it applies. It does not apply everywhere, because people die every day of pronounced causes, such as small-pox, fever, consumption, drowning, and other accidents, murder by edge tools and suicide, and no reason exists why any cavil need obtrude in such cases. With regard to more doubtful deaths, it would be necessary to make sure (1) by skilled post-mortem before cremation, that the body exhibited no traces of poison, or, as proposed by the most eminent promoter of the reform, (2) certain small portions of the body should be removed and kept for a certain number of years. For instance, a small portion of the stomach and intestines and contents in case of vegetable poisoning, and a small portion of the liver, should mineral poisoning have been resorted to. Spectrum analysis during combustion has been mooted, but this is hardly feasible. Possibly, before long the able scientists in charge of the cremation movement will be able to devise some suitable arrangement which shall be satisfactory to the nation and to the Government.

The question arises: Is cremation necessary? I think it is, in large cities, and even everywhere, for who knows where large cities may arise; because (1) of the danger which putridity effects in the soil and water supplies, and because of the foul gases which rise and load the atmosphere. Suitable proofs as to this can be brought together by hundreds. It is necessary (b) after plagues and pestilences, both human and bestial, in order to completely stamp out the disorder, or to effectually prevent the visitation from becoming a factor of evil for the future. It is also incumbent to practise it (2) after battles. (a) Because the interred dead have sooner or later to be taken up, as were those at Sedan, and consumed with fire, owing to the danger attending superficial and multiplied burials. (b) For economical reasons, the validity of which argument will be at once acknowledged when it is stated that in the Crimea there are over 100 different cemeteries occupied by our dead, requiring a large annual expenditure to keep in order. (c) For national reasons, inasmuch as the ashes of the dead could be collected under one monument, or brought home. Cremation is also desirable (d) because of the great waste of land

caused by our cemeteries, the dead, in fact, occupying great spaces which should belong to the living. In Valparaiso city, a hill used as a cemetery became so saturated with decomposition that it rent asunder, and the contents had to be committed to the flames.

With regard to the best method of cremation we will put all ancient forms aside, and consider only the more modern systems, among which may be reckoned the Siemen's German arrangement, as used in Dresden, and now in use at Gotha, and the Gorini apparatus in use in Milan. I have seen cremations in both places, and in Milan the now obsolete contrivances invented by Messrs. Polli and Clericetti, and Messrs. Terruzzi and Betti. The apparatus lately used in America was a simple retort and was a makeshift. I will not dwell upon this part of the question, because you are not here to discuss this or that apparatus, but the principle of cremation and its advisability. Suffice it to say that the Siemens and Gorini patterns are both faultless in their way. The English crematory, the property of the Cremation Society of England, is on the Gorini system, and was erected by the late Professor Gorini and myself some three years ago. It has acted admirably when tested with the lower animals. Views and descriptions of all the modern crematories are given in the "Transactions" of the Society, price one shilling, published by Messrs. Smith, Elder & Co.; where also will be found the Statutes of the Society.

With regard to the question of legality, the opinions taken from eminent counsel are, in general, to the effect that there is no law extant forbidding cremation, but only simple custom. Only two cremations of English subjects have as yet taken place, and in both cases they were carried out abroad, at my recommendation. The question of cremation, however, has never been legally fought out, and it is evident that it must soon be so. In March last I heard Mr. Justice Kay, at the Chancery Division, state in that court that executors are bound "to bury the dead in a manner suitable to his estate." He would not, however, decide the question as to whether a man could will his body to be burnt or not, and he made an observation in summing up, that he preferred cremation to burial, as being the more sanitary practice. No cremation has yet taken place in the English crematory, because the Council of the Society do not wish to lay themselves open to the passing of a prohibitory Act, and because the present is not a suitable time to approach Parliament with any formulated rules for their approval. It is hoped, however, that the time will soon come. I was ashamed some time ago to have to inform a Rajah, whose wife had died in London, that in no part of the Imperial country could we have the corpse cremated.

With regard to the cost of cremation, the prime cost for fuel is about ten shillings, with an approved apparatus, and it is likely that the charge for the fuel, for attendance, and for the use of the crematory and collection of the ashes, will not exceed five pounds, and may be much less when there are several cremations at the same time following each other.

In conclusion, and with reference to the final disposal of the ashes, it is unlikely that the law will permit them to be taken away and kept in the house. It is probable, rather, that it will be incumbent upon the friends to lodge them in the columbarium which will be attached to each crematory. Or there would be no objection to storing the urns or small sarcophagi in the church, and certainly none to their being buried in some suitable place. In Milan a noble structure has been built to accommodate the ashes, and the receptacles are numbered, so that no possibility of confusion can exist.—*San. Rec.*

**FASHIONABLE DEFORMITIES.**—Mr. Noble Smith is taking up for the National Health Society the subject of fashionable deformities and the hygienic defects of modern dress of ladies, to which that Society has done so much to direct attention. A very healthy public feeling has been developed on this subject; and it is satisfactory to find that, on this occasion, a large audience assembled at Hampstead, under the presidency of Mr. Spencer Wells, to hear what Mr. Noble Smith had to say on the subject. The lecture was excellently illustrated by drawings, diagrams, and models; and Mr. Noble Smith laid down the proportions of the human figure according to the rules of proportion of Professor Marshall, viz. that the average height of English women was sixty-three inches, the width across the chest nearly nine and a half inches; at the waist the width should be nine inches, or but half an inch less than under the arms; and on the hips about eleven and a quarter inches, while the circumference of the waist should be a little over twenty-five inches. Respiration and circulation were impeded by tight-lacing, which also produced palpitation of the heart, torpidity of the liver, indigestion, and degeneration of the muscles covered by the corset. The lecturer pointed out that the chief purpose of clothing should be to maintain a uniform temperature for every part of the body. He also condemned the use of high-heeled, tight, or short boots, and contended that, in clothing generally, easy locomotion and the free movement of the limbs should be provided for. He commended a "divided hygienic skirt" costume, made under the auspices of the Society, and exhibited, the peculiarity of which appeared to be general ease,

with an under-skirt resembling men's nether garments, loosely made, and giving freedom in walking and other movements. He advised ladies also to take more exercise than was their usual habit. The absurd notion that the human figure can be improved by artificial devices of compression and distortion, to suit the varying fancy of the modish dressmaker, is an idea which all sensible persons treat with mingled ridicule and amusement, but which still exists as an accepted dogma in the minds of ordinary English women; and if the National Health Society can succeed in fanning to a flame the present sparks of reason which are showing themselves with some promising brightness, and inducing English women to adopt rational principles as the guide to dress and personal decoration, in lieu of arbitrary follies, it will have rendered an acceptable service. For this purpose, however, as for any other social reform of the kind, much perseverance and continuous hammering will be needed.—*Brit. Med. Journ.*

**TO PREVENT SUNSTROKE.**—The weather being somewhat warmer than the majority of folk find pleasant, the papers are becoming burdened with mingled regrets and suggestions. One of the most recent—and therefore probably one of the oldest—artifices for self-protection is the insertion of a cabbage-leaf under the hat. It is strange that the milliners of Paris, where the thermometer has been standing at 100·2° F. in the shade, did not at once bring out a sunstroke hat or bonnet deftly constructed of leaves, if not of the cabbage, of some more *distingué* vegetable. The whole truth—and it is not much to tell—may be summed up in a sentence. A cabbage-leaf is dense in structure, and being moist, causes some evaporation as it dries. A sheet of thick brown-paper slightly moistened would answer the purpose better, and would not be so unsightly. There is, however, a still more original idea, and that is to lave the head in oil. No doubt oil will help to preserve an equable temperature in the part it covers, and whether the external enemy be heat or cold, a lubrication of oil makes a good shield; but as a celebrated statesman to whom a particular description of port wine was recommended as a remedy for the gout returned answer that he would prefer the gout, so some of us would incomparably rather run the risk of sunstroke than purchase immunity at the price of a wholesale use of hair-oil. The best preventive against sunstroke is to take the weather in good temper, and, as the saying goes, "coolly." We make superfluous heat in our bodies, and prevent the equilibration of the heat produced within and that received from without, by fuming and fretting as we learn the temperature is somewhat above the average for the season through which we are passing. Risks of "sunstroke," setting aside those which are wantonly



incurred by reckless exposure, consist chiefly in the dangers of neglecting the general bodily and mental health, at a time and under conditions in which the organism is severely taxed to discharge the duties devolving upon it in the daily exigencies of life. We should avoid either eating, drinking, or in any sort working, more than the minimum need of the moment imperatively requires.—*Lancet*.

### REVIEWS.

*The New Handbook of Dosimetric Therapeutics*, by Dr. Ad. Burggraeve, Edited by Dr. H. A. Allbutt, Physician to the Leeds Dispensary for Skin Diseases (David Bogue).—This complete work comes before the public with good credentials, and will cause somewhat of a revolution in medical science, if we mistake not. The system of dosimetry, as explained by Dr. Burggraeve, consists in the appropriation of remedies to the nature and progress of diseases, to their symptoms, and to individual idiosyncrasies, besides the jugulation, or cutting short at their outset of all acute diseases, as fevers and inflammations. The theory is well and ably enunciated by the author, and Dr. Allbutt has very faithfully translated it from the French into our own language, a task by no means easy. The names of the author and the translator, both of whom are honourably known in the literary world, are a sufficient recommendation for the work, which should be read by all who are interested in the subject.

*Headaches: their Causes and Treatment*, by William Henry Day, M.D., Physician to the Samaritan Hospital for Women and Children (J. & A. Churchill).—No praise from us can possibly add to the popularity of this very useful and interesting book, which has made its re-appearance in a third edition, considerably enlarged, and, if possible, improved. Dr. Day deserves the thanks not only of the medical profession, but of the laity also, for his complete and concise treatise on this distressing malady, in which will be found a description of every known phase of the complaint with appropriate remedies.

*Quack Doctors and their Doings*, by James S. Garrard (John Heywood).—This small pamphlet, which is termed by the author "a warning to invalids," contains a table of contents, a short preface, and a few pages devoted to the treatment of the subject. The price is threepence only, but we think it far too high.

*The Bath Thermal Waters*, by John Kent Spender, M.D. (Churchill).—This is a very complete and interesting account of the mineral waters of Bath, historically, socially, and medically considered by the author, together with an appendix on the climate of the place by the Rev. L. Blomefield, M.A., &c., and we have great pleasure in recommending it to the public, as we can confidently do, containing as

it does such a mass of useful and instructive information. There was a time when Bath was the most fashionable spa in the country, and it is difficult to understand why its former glory has departed, for its waters are as efficacious now as ever they were. In the prejudices and whims of society, probably, will be found the secret. Be this as it may, the Bath waters are undoubtedly neglected, whilst in many obstinate forms of disease they are of the greatest benefit, as is clearly shown by Dr. Spender.

*Health Resorts for Tropical Invalids*, by W. J. Moore, L.R.C.P. (Churchill).—We hear a great deal now-a-days about the European health resorts, but it is rarely we meet with a treatise similar to the one before us, which is divided into two parts, the first containing a description of the various health stations in the far east, and the other showing the advantages and disadvantages of the European resorts to those who have lived in the tropics. The work is very complete and remarkably interesting, and will be found very valuable by those who have returned home from India with impaired health or shattered constitutions.

### CORRESPONDENCE.

To the Editor of THE FAMILY DOCTOR.

SIR,—Can any of your readers who are in the habit of riding bicycles or tricycles, inform me whether they ever suffer from any peculiar symptoms that can in any way be attributable to the working of the machine? I should also like to ask if anyone can tell me whether hip-joint disease may be produced by using such machines? I know instances where sewing-machines, worked by the foot, have been the cause of that disease.

Yours, &c.,  
TOURIST.

*Mr. Lightfoot*.—Consult an ophthalmic surgeon.

*Mrs. Rowan*.—We should be glad to help you, but it is quite out of our line. Your obvious course is to discontinue the treatment of such a person, and to consult a respectable registered practitioner.

*Singer*.—The best lozenge we know of for improving the voice is Mackey's Compound Lubricating Throat Lozenge, which is recommended largely by the faculty.

*Enquirer*.—Homœopathy is quite legitimate. It depends on the tastes of the employer and employed. If a registered surgeon choose to practise homœopathy, no one can molest him.

*Errata*.—In Dr. Hardwicke's article in our last number, page 89, in paragraph on Ventnor, the words "mean annual temperature is 39° F., and the range 33°, while the" should be omitted, and the figures "45·72°" and "46·66°" immediately following, should read respectively "41·89°" and "49·66°."

All letters and other communications for the Editor should be addressed to him at the Publishing Office, and will be considered as private communications for himself. If for publication, they should be written legibly, and on one side of the sheet only.

Communications relating to subscriptions and advertisements should be addressed to the Publishers.

No notice will be taken of communications unless authenticated by the name and address of the author, which need not necessarily be published.

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## THE FAMILY DOCTOR.

## FRENCH HEALTH RESORTS AND SPAS.

## ARTICLE V.

By HERBERT JUNIUS HARDWICKE, M.D., F.R.C.S., M.R.C.P., &c., Hon. Physician to Sheffield and South Yorkshire Ear and Throat Hospital, and to Sheffield Public Hospital for Skin Diseases.

(Continued from page 101.)

**Eaux Bonnes** is situated 2,800 feet above sea-level, in a narrow ravine at the foot of the Pic du Ger, in the department Basses Pyrénées. It is subject to great changes of temperature during the day, but has, on the whole, a mild climate. In atonic phthisis, asthma, hépatisation of the lungs, and laryngeal and pharyngeal affections, it is, owing to its elevated situation, very valuable. The highest temperature is 91.4°, and there are 88 rainy days out of 75 in the summer. There is a thermal sulphur spring here with bath-house and inhaling-rooms.

**Eaux Chaudes** is situated near Eaux Bonnes, but further on in the valley, in a wild ravine 2,100 feet high, and possesses a sulphur spring with a handsome thermal establishment, celebrated for the cure of chronic rheumatism and chlorosis. The season is from June to October, but the number of visitors is very small.

**Enguien-les-Bains** is a very pretty place just outside Paris, with a charming lake and mild cold sulphur springs, which are used for drinking and bathing. These waters have a large reputation amongst Parisians.

**Escaldas** is a picturesque place not far from Ax, possessing thermal sulphur waters with temperatures varying from 90° to 106°. It has a mild climate, and from its high elevation is valuable in consumption. The waters are useful in skin diseases.

**Evians-les-Bains** lies on the south side of the Lake of Geneva, nearly opposite Lausanne, and possesses an indifferent thermal spring. The climate

is mild and refreshing in the spring and autumn, but the heat of summer is very great. The waters are considered to be sedative, and are valuable in neuralgia and indigestion.

**Forges-les-Eaux** is a dull spa situated in department Seine-Inférieure, and possessing a good chalybeate spring, useful in cases of chlorosis, dyspepsia, and diarrhoea.

**Guagno** is a Corsican spa of great repute in the island, and possesses sulphurous springs with a temperature of 105.8°. The town is prettily situated in a valley between two mountains, three miles from Vico, and surrounded by a dense forest of chestnut trees. The climate is mild and equable, though moist.

**Guitera** is a Corsican spa possessing sulphurous springs with a temperature of 104° to 180°. The place is well situated, and will probably be before long made habitable for civilised people, which at present it is not.

**Hammam Meskoutin** (or **MeskhROUTIN** or **MELÔUANE**) is an Algerian spa, situated in the province of Constantine, not far from Quelma, and possesses a large number of muriated saline, sulphurous, and chalybeate springs, varying in temperature from 115° to 208°. According to Dr. Hermann Weber they are chiefly indifferent thermal waters, having a very high temperature, surpassed only by the Geysers in Iceland. Rheumatic and gouty affections, paralysis, malarious cachexia, old gunshot wounds, and skin diseases are the principal maladies treated here. The accommodation is cheap and fairly good, and the season is from May to October. These baths are the *Aqua Tibilitina* of the Romans.

**Haute Rive** is a small alkaline spa not far from Vichy.

**Hyères** is a charming health resort about twelve miles from Toulon on the road to St. Tropez, thirty miles further south than Mentone, and about two miles from the coast of the Gulf of Lyons. It has a population of about 12,000 inhabitants, is beautifully situated and bright and sunny, but unfortunately has not sufficient mountain shelter, so that the mistral blows frequently and with great violence over the town. The sun is very powerful, and makes the summer almost unbearable; but the winter climate is very mild and exceedingly dry, snow falling in the town very slightly about once in three years. The average winter temperature is 46.18°, the annual rainfall about 27 inches, and the number of rainy days 62 in the year and 17 in the winter. As a rule foreign invalids inhabit the modern portion of the town, which is built at the foot of a steep hill, and the climate of which is said to be warmer and more equable in winter than that of Nice.

**Lavry**, situated 1,850 feet above the level of the sea, in the Rhone valley, near St. Maurice, possesses

thermal sulphur springs, varying in temperature from 92° to 113° F. The waters contain a quantity of common salt and Glauber's salt. Sool baths are prepared from the sool of Bex.

LONGCHAMPS, near Bordeaux, is celebrated for its hydropathic establishment.

LUXEUIL is situated at the foot of the Vosges mountains, in department Haute-Saône, at an elevation of about 1,800 feet, and possesses indifferent thermal (slightly muriated) springs from 65° to 133°, containing small quantities of manganese, iron, and arsenic, and of value in rheumatism, neuralgia, and chlorosis. The climate is agreeable, and the country around very charming.

MARLIOZ is a small spa close to Aix-les-Bains, which larger spa it supplies with strong sulphur waters. It has a reputation for the cure of laryngeal and bronchial affections.

MENTONE (Menton, Fr.) is the warmest and most sheltered health resort of the Riviera, and, with the exception of San Remo, the least dry. It is a small town of 5,000 inhabitants, lying on the main road from Nice to Genoa, about nineteen miles from the former place, and is approached by a rather expensive line of rail, as well as by the good road which Napoleon made at the commencement of this century for military purposes. From Nice travellers can proceed to Mentone either by rail, which allows glimpses of exquisite scenery, or by road, which is one of the most beautiful and most enjoyable routes in Europe. After leaving Nice the road gradually ascends a high mountain, the Turbia, about 3,000 feet high, from the top of which can be seen the charming city of Nice nestling at its western base, and a magnificent panorama of the bay. A rest may be made here at the little village of Turbia prior to commencing the descent of the other side of the mountain, through the picturesque little village of Rocca-bruna, to Mentone. The panorama to be seen on this side of the mountain is even more glorious than the one on the Nice side. Immediately below lies Monaco, at the head of a promontory jutting into the sea, beyond which is the magnificent amphitheatre of Mentone, with the little town lying at the foot, and a beautiful bay stretching away to the south. The hills forming the amphitheatre at the back of the town are clothed with olive-groves below and handsome firs higher up, and give a complete protection from the north, north-east, and north-west (mistral) winds. So well protected is Mentone from these winds, that when they are blowing furiously in the unprotected districts round about, there is always a complete calm in the bay of Mentone, while the sea is often foaming and raging but a few miles from the shore. The only winds to which this little district is exposed are the south, south-east (scirocco), and south-west winds, which are warm, and consequently do not trouble

consumptives much. The warmth of the winter atmosphere at Mentone is about equal to that of Palermo, five degrees farther south, as is obviously shown by the groves of lemon and orange trees which grow in the open air, flowering all the year round, to be gathered at four different times. According to Dr. Bennet, there is sometimes a great difference in the degree and severity of the cold from year to year. In the more severe winters, with a northerly wind, he has known the thermometer to descend below zero F. on several consecutive nights near the sea-shore. Slight films of ice have also occasionally formed at points which are exposed to the down draughts from the mountains, and snow has been known to fall on the shore-level, melting as it falls. In January 1864, according to the same author, there was a frost of unusual severity throughout the south of Europe, especially in Italy and Spain, and at Mentone it froze on the sea-level on several consecutive nights, snow falling on the shore-level. This severe weather killed a large number of lemon-trees and destroyed much fruit; and it is expected that there will be a recurrence of the disaster very soon, as an exceptionally severe winter usually happens about once every twenty or thirty years. Besides the beautiful groves of lemon and orange trees, the hills are covered with olive, apple, pear, cherry, and fig trees, as also vines, from which are procured fine-flavoured grapes. Sweet-smelling wild violets, geraniums, and other flowers may be gathered in the open air in December. The average rainfall is rather higher than at Nice, and the average number of days or nights, according to M. de Bréa, during which it rains little or much, is 80, or 20 more than at Nice. The mean annual temperature is 60°, with a maximum in August of 80°, and a minimum in January of 32°. The mean winter temperature is 52.25°, and that of January 48°, that of February 48°, March 52°, April 57°, May 63°, June 70°, July 75°, August 75°, September 69°, October 64°, November 54°, and December 49°. The season lasts from the end of September until the end of March, and on no account should consumptives remain here during the summer months.

MONT DORE lies 3,800 feet above sea-level, in the valley of the Dordogne, amongst the Auvergne mountains (department Puy-de-Dôme), and possesses a cold and several warm alkaline springs, the latter of a temperature of about 107°, containing bicarbonates of soda, magnesia, lime, and protoxide of iron, chloride of sodium and carbonic acid, which have a reputation in the treatment of chronic bronchitis and incipient consumption, and also in rheumatism and paralysis; but it is probable that the elevated situation of the place has a good deal to do with its cures of the respiratory affections. The season is from the middle of June to middle of September.

MONTPELLIER, in the south of France, once the best known and most frequented health resort in France, is now eclipsed by more favoured places. The town is situated on a hill in the centre of a sandy plain, and has a warm though variable winter climate. The mean annual temperature is 56°; that of winter 41°, spring 55°, while the mean daily range is 12°. The annual number of rainy days is 58. The atmosphere is dry and warm, and suitable for cases of humoral asthma, chronic laryngeal and bronchitic affections, with profuse expectoration; but owing to the sudden decrease of temperature, with heavy fall of dew at sunset, it is incumbent on invalids to remain indoors after dusk.

NERIS is a rather dull, but pretty, spa, 800 feet above the level of the sea, in the department Allier, not far from Mont Luçon, and possesses weak thermal alkaline springs, ranging in temperature from 114° to 125°, and containing small quantities of carbonates of soda and lime. The summer is very hot. Neuralgia, hysteria, chronic rheumatism, and uterine complaints are benefited by these waters.

NICE, the French Brighton, is situated on the verge of a valley formed on three sides by the Maritime Alps, and opening on the south to the Mediterranean. It is 170 miles from Marseilles, and 218 from Genoa, has a population of 60,000, and is built around the base of a lofty promontory, surmounted by the ruins of a fortress. The river Paillon flows through the town, and empties into the Mediterranean, having a handsome boulevard on the eastern bank, and the *Promenade des Anglais* on the western bank, which is the most exposed and the most dusty part of the town. The climate is dry, warm, tonic, and exciting, the mean annual temperature being 60°; that of winter 47·75°, spring 55°, summer 71°, and autumn 62°. The temperature varies from month to month not more than two or three degrees. The average number of rainy days are 72 in the year, and 38 in the winter; the average number of bright cloudless days 229 in the year, and of cloudy days, 66; the average rainfall 26 inches. In winter the prevailing winds are the north, east, and south, the former being attended with cold, dry weather. The mistral is to a great extent, though not altogether by any means, shut out by the mountains between Fréjus and Cannes. On the whole, although the climate of Nice is warm and dry, yet the town itself is not at all suitable for consumptives to reside in during the winter and spring, the only locality at all adapted to the treatment of phthisis being the suburb of Cimiez, which is situated rather less than three miles away, at a moderate elevation, and sheltered well from the winds by the mountains, which are covered with olive trees. The climate of Cimiez is quite different from that of Nice, in the neigh-

bourhood of the *Promenade des Anglais*, being far more protected from the winds, more free from dust, and, moreover, the place is *quieter*. Carabacel and Villefranche are very similar to Cimiez, and are close to the town. The diseases most benefited by a residence at Cimiez are consumption, with profuse expectoration and great debility, scrofula, and chronic bronchitis.

OLETTE is a small spa situated on the river Tet, 1,800 feet high, and on the route from Perpignan and Prades to Escaldas. It is noted for its thermal sulphur springs, which vary in temperature from 81° to 136°, and are very abundant. Rheumatism and skin diseases are principally treated here.

OREZZA is a Corsican spa, situated thirty miles south of Bastia, amidst forests of chestnut trees, and is renowned all over Europe for its strong chalybeate spring, which contains a very large percentage of carbonic acid. The spring is leased to the Vichy Company, who have built an hotel and a bath establishment. Close by is another spring containing iron and sulphur, which is much thought of in cutaneous affections (Dr. Henry Bennet). The town has an excellent climate, being surrounded with mountains, and at a good elevation, which, added to the value to be derived from the waters, makes the place most valuable for anæmic and chlorotic people and invalids generally.

PASSY is a suburb of Paris, possessing a chalybeate spring, much thought of in the neighbourhood.

PAU is the principal town of the Basses Pyrénées, situated 650 feet above sea-level, on a flat plain, and possessing beautiful promenades, but a very cold, variable, damp, and dreary winter climate. It was once considered to be a very valuable health resort, but is fast losing its great reputation, but, unfortunately for visitors, not its abominable odours. The average annual temperature is 56°; that in winter 44·6°, spring 54°, summer 70°, and autumn 58°; and there are about 24 days, as a rule, with cold below freezing point. The average number of rainy days is 140 in the year, and the annual rainfall 42 inches. The climate is so variable that a difference of 20° has been often noticed between 9 A.M. and noon (Dr. T. M. Madden). The peculiarity of the climate is the remarkable stillness of the atmosphere. It is said that rheumatic people are positively made worse by residing here, and most certainly it is not a suitable place for consumptives, especially if at all debilitated to begin with. Spasmodic asthma, however, is greatly relieved by the influence of this remarkably still, moist atmosphere, as are also other spasmodic affections.

PIERREFONDS, a spa situated not far from Compiègne, on the shore of a lake, possesses a weak, cold, sulphurous spring, and a fair chalybeate. It is well patronised.

PIETRAPOLLO is a Corsican spa, possessing good

thermal sulphur springs, varying in temperature from 110° to 146°, and a very well-appointed establishment.

PLOMBIÈRES, the French Teplitz, is situated in a deep and narrow valley in the Vosges mountains, at a height of 1,810 feet above sea-level, and is twenty-five miles from Epinal. It possesses about twenty mineral springs, principally indifferent thermals, and also cold chalybeates. The chief diseases treated here are gastralgia and chronic catarrh of the stomach, also chronic rheumatism, neuralgia, lumbago, and joint affections.

POUGÈRES is a small spa in the valley of the Loire, not far from Nevers, possessing earthy waters, which contain the carbonates of lime, magnesia, and soda, and a small quantity of carbonic acid, and are useful in dyspepsia, gravel, and catarrh of the bladder.

PRESTE (LA) is a spa situated in a terribly wild gorge near the Spanish frontier, high up in the Pyrenees, on the river Tech, and can only be reached on foot or by mules from Amélie. It possesses a thermal sulphur spring of the temperature of 118°, which is used in cases of gravel and catarrh of the bladder. The season is from June to August.

PUZZICHELLO is a cold sulphur spring in Corsica, with a great local reputation for skin diseases. It is, however, situated so low that its inhabitants frequently suffer from malaria. The waters are said to be similar to those of Schinznach.

ROYAT is situated 1,880 feet above sea-level, in a gorge, eight miles from Clermont-Ferrand, in the department Puy-de-Dôme, and possesses an agreeable refreshing climate, and several alkaline muriated acidulous springs, with temperatures varying from 66° to 96°. They are most useful in cases of anæmia, scrofula, gout, rheumatism, and mucous catarrh.

SAINT AMAND-LES-EAUX is a small earthy water spa in the department Nord, not far from Valenciennes, which enjoys a great reputation for its mud baths, prepared from the mud deposited by the springs, which consists of silica, carbonate of lime, and sulphuret of iron, with other combinations. The thermal establishment is one of the best in France, and the temperature of the waters is from 67° to 77°.

SAINT CHRISTAU lies about ten miles from Pau, in the Valley of the Asp, and possesses cold sulphur springs and a good hydropathic establishment. Chlorosis and skin diseases are said to be improved by a sojourn here.

SAINT GERVAIS lies in a valley about 2,000 feet above sea level, not far from Chamounix, and possesses several bitter-water springs, varying in temperature from 77° to 126°, useful in eczema, chronic bronchial catarrhs, and dyspepsia. There are good bathing and hydropathic establishments.

SAINT NECTAIRE, in the department of Puy-de-Dôme, possesses alkaline muriated acidulous springs, varying in temperature from 54° to 129°, which are said to be of value in scrofula, diseases of women, and ophthalmia. There are three good bathing establishments.

SAINT SAUVEUR is situated 2,525 feet high, in the department Hautes-Pyrénées, is essentially the spa of the French ladies, its waters being soft and agreeable to the skin, with a small quantity of sulphuretted hydrogen, and of the temperature of 98·56°. It has a mild climate, and also a large number of visitors annually in the season, from May to October. The complaints mostly treated here are those resulting from sexual diseases and nervous prostration.

SAINT YORRE is a small alkaline spa close to Vichy.

SOULZMATT is situated 850 feet above sea-level, in a valley of the Vosges, and possesses a cold alkaline acidulous water, containing a large quantity of carbonate of magnesia and carbonic acid. The waters are chiefly exported.

SPA is a Belgian spa, and one of the most enjoyable on the continent. It is situated in a valley of the Ardennes, 1,000 feet above sea-level, and is quite sheltered from the north and east winds, which makes its climate remarkably pleasant and mild. The waters are powerful chalybeates, containing, in addition to the carbonate of the protoxide of iron, a large quantity of carbonic acid, which makes them very stimulating. There are several springs, but only one of them is really in the town, the others being away in different parts of the woods which surround the town, but very easily got at. The principal spring is the "Pouhon," which contains far more saline ingredients than any of the others, and which is situated in the centre of the town. Its temperature is 52·1°, and the solid ingredients as follows:—Bicarbonate of protoxide of iron 0·87, carbonate of lime 0·75, chloride of sodium 0·20, carbonate of soda 0·90, carbonate of magnesia 0·81, and silica 0·28. It also contains eight cubic inches of carbonic acid. The other springs are the "Geronstère," "De Barisart," a mile and a half from the town, the "Sauvénère," a few miles south-east of the town, which is quite sparkling from the amount of carbonic acid it contains, the "Groesbeck," close to the last-named, the "Condès," and the three "Tonnelets," which are by far the most agreeable of all the spa waters, and delightfully sparkling. These waters are very valuable as stimulant tonics in cases of anæmia, chlorosis, atonic dyspepsia, and all debilitating com-that plaints, and, in addition to this, tradition has it whatever female drinks a glass of the "Sauvénère," standing with her right foot in the *Pied de St. Remacle*, a shoe-mark deeply engraved in the rock

at the side of the well, will increase the population within a year. This is generally believed by the continental ladies. The surrounding country is beautiful.

URIAGE, situated in a beautiful valley, 1,800 feet high, in the department Isère, near Grénoble, possesses muriated saline sulphur springs and bitter-water springs, having a temperature of 80°, and is one of the strongest salt-water spas in France. The principal constituents of the water are chloride of sodium, sulphates of magnesia, soda and lime, and hydrosulphuric acid. There is also a chalybeate spring. These waters are valuable in chronic skin diseases, scrofula, glandular enlargements, and mucous catarrhs.

VAISSE is a small alkaline spa adjoining the much larger one of Vichy.

VALS, in a pretty valley in the department Ardèche, possesses a number of very important cold simple acidulated alkaline springs, some of them, such as "Magdeleine," "Précieuse," "Désirée," and "Rigolette," containing more bicarbonate of soda and carbonic acid than the Vichy waters, and others, such as "Saint Jean" and "Dominique," have less. These waters are largely exported, and appear to be used indiscriminately by many, who thus enfeeble themselves.

VERNET (LE) lies at the foot of the Canigon, 2,000 feet high, in the department Hautes-Pyrénées, and possesses a mild climate, being sheltered from the east and south winds, which latter are very relaxing. It also possesses thermal sulphur springs, with excellent arrangements for all kinds of baths. Rheumatism is the chief complaint treated.

VIC-SUR-CÈZE is situated about 2,200 feet above sea-level, in a beautiful part of Cantal, and possesses an alkaline muriated acidulous spring, containing a large quantity of carbonic acid and sulphate of soda, which has given the waters great importance. They are very useful in urinary affections and liver congestions.

VICHY is the finest and strongest alkaline acidulous bath in Europe, and is situated on the Allier, 800 feet above sea-level, in a wide valley, with a very mild climate. It has the largest thermal establishment in France, and also handsome hotels and casinos, and beautiful and shady walks. The climate is too hot in summer. There are nine rich springs, the temperature of which varies from 50° to 110°. The most popular is the "Grande Grille," at 118°, which contains in 16 ounces 87·5 grains of bicarbonate of soda, 2·7 of bicarbonate of potash, 2·8 of bicarbonate of magnesia, 8·8 of bicarbonate of lime, ·08 of bicarbonate of protoxide of iron, 4 of chloride of sodium, 5 of silica, and 14 cubic inches of carbonic acid. All the springs contain pretty much the same quantities of all the ingredients. The other chief ones are "Puits Carré," "Hôpital,"

"Celestins," and "De Mesdames." The quantity of water usually drunk is two to four or six glasses. The principal complaints met with at Vichy are gravel, stone in the bladder, catarrh of the bladder, gout, and diabetes, also dyspepsia, enlargement of liver and spleen, and chronic rheumatism.

VITTEL is a small spa near Contrexeville, with precisely the same kind of waters as Vichy.

## CONSUMPTION: ITS CAUSES, SYMPTOMS, AND SUCCESSFUL TREATMENT.

By EDWIN W. ALABONE, M.D., M.R.C.S. Eng.;  
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(Continued from page 108.)

MUSCULAR POWER is also lessened, there being an early sense of fatigue, especially if unusual or laborious exertion be attempted, such as running or carrying a heavy weight, the muscles having lost their tone. The thinner layers of the muscles become relaxed, and so hang more loosely. The muscles of the face, also, do not completely respond to the stimulus, hence the expression of the features change, and although the eye may be bright, and the spirits vivacious, there is an unmistakable languor imprinted on the features, due to the incomplete contraction of the muscles of the face.

*Perspiration.*—There is a great tendency to profuse perspiration in persons of a phthisical nature. It is frequently imagined that any considerable amount of sweating is a diagnostic sign of an advanced stage of the disease. This, however, is an error; profuse sweats undoubtedly do occur at the latter stage of the disease, but they also are seen at the commencement. In cases of extreme debility, and where the disease is complicated with bronchitis, there is a greater tendency to perspire. The sweating of phthisis occurs in an intermittent manner, principally in the evening and the early morning whilst the patient is asleep: in some instances they are so profuse that the patient dreads to go to sleep. They also recur whenever the heat is suddenly raised, and frequently when there is a change from hot to cold weather, especially in the autumn; also if the patient receive any shock or surprise, such as hearing any bad news. The cause of these sweats is to be found in the abnormal action of the skin, particularly when the vital powers have become enfeebled, and, as the reader is doubtless aware, there is in health as well as disease a low state of the vital powers at night, or, rather, early morning. Many patients find these sweats aggravated if they go to sleep on their backs, and this is especially the case where weakness has become fully developed. The reason of this is undoubtedly on account of the tongue falling back and producing increased

dyspnoea; the patient waking in a fright and bathed in perspiration; but after being awake a few moments the breathing becomes easier and the sweats gradually disappear. The perspiration of a consumptive person has a strongly acid smell, which can readily be detected, especially in the morning; in some instances it is so pungent as to be absolutely disagreeable and offensive. I find this odour, however, has nothing whatever to do with want of cleanliness, for it frequently occurs with those who daily wash the whole body, and are most particular in using clean linen; it is, therefore, evident that there is a great predisposition to acid sweats in patients suffering from phthisis, and I have frequently been struck with the fact that where the perspirations are not of an acid nature they induce considerably more debility of the system.

*Loss of Appetite.*—This is a very constant and most important symptom of consumption, inasmuch as it so vitally interferes with the nutritive process. As regards this symptom, we must avoid a mistake into which an inexperienced person is very liable to fall. I find that *almost invariably* patients tell me their appetites are very good, and that they eat remarkably well and plentifully; but by making close and careful inquiry I find that in by far the greater majority of cases not only is the amount of nourishment taken most inadequate, but that there is a strong dislike, and, generally, a total aversion, to animal food of every kind. It is, therefore, necessary to determine the amount and character of food taken, when it will be found that there is a complete derangement of the appetite and digestive powers; with this there is frequently acid, or other unpleasant tastes, in the mouth. This loss of appetite is mostly shown in the morning, the patient being unable to eat more than a slice or two of bread and butter, and drink a cup of tea or coffee. I have carefully investigated the matter of dislike on the part of consumptive patients to special articles of diet, and find that the one prominent article disliked is *fat*; after that, comes meat, then acids, sugar, tea, coffee, fruits, bread, in the order named. With, I think, two exceptions, I have never found milk objected to, unless there has been the same dislike previous to the disease, and in these two cases it could be taken when made in puddings. With loss of appetite there is also some derangement of the digestive functions; the tongue being more or less discoloured, and covered with a brownish-buff fur, especially in the morning, and not infrequently that organ becomes enlarged and flabby. There is a sense of oppression and frequently drowsiness after meals, with a certain amount of tenderness at the pit of the stomach on pressure, and considerable flatulency. These symptoms become aggravated where a sedentary occupation is followed, as in the case of tailors, dressmakers, shoemakers,

&c. In these cases fat is usually so disliked that the sight of it causes retching.

*Loss of Flesh and Weight.*—The first indication we get of this symptom is a diminished density and tension of the muscular system, rendering the limbs more or less flabby; this is especially noticeable in children, and is frequently the first indication with them of tubercular disease. Where there is any tendency to phthisis, this wasting of the tissues commences; it is a sign which should create suspicion and alarm. It is so important a symptom that it cannot be too closely watched, and direct observation of the weight should be continually taken. There is sometimes a puffiness about the face which the patient mistakes for healthy flesh. Should there be any abnormality of the osseous system, it becomes more apparent as soon as wasting commences, as, for instance, the projection of the back-bone, or contraction of the chest. If no successful means be adopted to prevent this wasting, the emaciation proceeds, the fatty and muscular tissues being rapidly absorbed; the nose assumes a pointed appearance; the eyes become sunken, but possess an unusually bright and liquid sparkle; the jaws become hollow, the gums seem, as it were, strained over the teeth, and not full and soft as in health, and when the patient laughs the features assume a species of ghastly smile; the bones show more and more distinctly through the skin, the arms become small, and all development of muscle is lost; the breasts shrink, until there is nothing but the nipple left; the ribs can easily be counted, and their terminations and articulations plainly distinguished; the spine projects; the fingers become tapered, and the joints appear to be enlarged from the shrinking of the flesh; the abdomen falls in, and the whole frame seems to be wasted away, with the exception, perhaps, of the legs, which frequently become dropsical. A slow and gradual loss of flesh is much more to be dreaded than a quick and irregular loss of weight. Many persons in health frequently lose a fair weight without any serious consequence, but if there be a gradual, so to speak, grain by grain loss, it points to the existence of some serious disease. In ordinary cases of consumption the loss of weight is, at the outset, almost imperceptible, in fact it would be quite so were it not detected by weighing; if this is not done, wasting of the tissues may proceed to a very considerable extent without it being perceived, and if the diseased condition (in which the blood is to allow of this wasting) continue, so does the loss of weight, constantly yet insidiously. If this progressive waste does not develop any decided symptom of the disease, it is rather a bad than a good sign, showing as it does that the blood is becoming affected to such an extent that it is incapable of sustaining the healthy functions of life. One thing in connection



with this wasting is peculiar : a person may lose a considerable amount of weight one week, and gain nearly as much as lost the next, but as the disease progresses the balance against the patient becomes more and more.

*Diarrhœa* is a very common symptom throughout the whole progress of consumption ; in the earlier stages it is due to the excess of acidity in the alimentary canal, but in the latter stages is principally due to tubercular deposition and ulceration in the intestinal glands. As a rule, this symptom commences in the second stage of the disease, but sometimes is first noticed during the closing days of life, whilst, again, it may accompany the whole course of the disease. It assumes two distinct forms, the one is *continuous*, the other *remittent*. The continuous form may last for twelve or eighteen months, and is usually attended with a considerable amount of griping pain, the bowels acting from two or three to ten or twelve times in the twenty-four hours. In the remittent form there is less colic, the attacks remit about every ten or twelve days, and during their remission there are about three stools during the twenty-four hours.

The *Nervous System* is considerably affected by phthisis, especially during the first and second stages. There is increased sensibility and excitability. Under pleasing circumstances vivacity is exhibited to a much greater extent than occurs in health, and there is a sudden and unaccountable depression rapidly following the excitement. The depression principally shows itself in the early morning before rising, and on retiring to bed at night. During the day the spirits, as a rule, are good. The patient also becomes very susceptible to all impressions, whether of a painful or pleasing kind. There is an abnormal species of paralysis should fear be exhibited ; there is an undue amount of exhilaration even at the slightest pleasure ; pain which in health would be almost unnoticed, produces more or less exhaustion, and cold is more keenly felt—the temper becoming irritable, and the patient fretful.

The *Throat* symptoms are liable to be entirely overlooked, yet they afford most valuable aid to our diagnosis. On examining the throat of an ordinary phthisical patient, the fauces will be found narrower and smaller than in a healthy person ; the whole structures being sharp in their outline. In almost every case the patient complains at some time or another of an irritation or tickling of the throat ; in many cases it is very slight, whilst in others it is a most troublesome symptom. There are two conditions of the throat commonly met with, one in which there is a state of bloodlessness over the whole mucous membrane, the pharynx being contracted at its upper part, the uvula being usually retracted, and if the throat is irritable it will be seen to be covered with a kind of frothy foam, and most sensitive to

touch. The other condition is where the epithelial glands become enlarged ; here the uvula is generally elongated. The mucous membrane looks turgid, and enlarged blood-vessels can be seen. The irritation in these cases seems to be less than in the first condition.

There are many other symptoms associated with consumption, which need no special comment.

The *Temperature* of the body, which in its normal state is 98°, invariably rises, sometimes getting as high as 104° or 105°. The evening temperature is greater than the morning, usually by about a degree. The rise of temperature is gradual (unless inflammation occur). In the first stage we find it varying from 98.5 to 99 or 100. In the second, from 99 to 101.

The *Pulse*, too, becomes more rapid, and generally is of a thready nature, sometimes compressable at the wrist.

These are the main symptoms of this dreaded disease, as in the majority of instances it presents itself to our notice, but there is another form of consumption of which it would be well to say a few words. I refer to that known as "*acute phthisis*," "*rapid decline*," "*galloping consumption*," &c. This type of disease assumes a fearfully rapid course. I have seen many instances of persons in good health who have taken cold, and have died in from five to six weeks. It generally commences as a violent cold in the head and chest ; cough commences at once, with night sweats and difficulty of breathing, with an unusual sense of oppression at the chest. In about a week the expectoration commences, and the disease now assumes all the forms of acute inflammation of the lungs, and in many instances simulates them so completely that it is frequently mistaken for that disease. It occurs chiefly between the ages of fifteen and twenty years, the subjects being of full habit, with a "*blooming*" cheek and clear complexion. Should there be an inherited predisposition to consumption, the symptoms vary slightly. The hands and feet are cold, and there is a sense of fatigue on exertion ; the patient *hardly* feels ill, there being but little cough, no pain, no pain, no hemorrhage, and sometimes no expectoration, and as the disease steals quietly on its victim, till the countenance becomes paler, the lips lose their colour, the eyes become sunken, and a dark bluish line appears under them. Suddenly diarrhœa supervenes, and the patient frequently dies without any struggle, perhaps sitting in a chair. Those persons who have small chests are peculiarly liable to this type of the disease.

Having said so much about the symptoms of consumption, we will now turn our attention to the *TREATMENT*, which I shall divide into two kinds first, the *Preventitive*, and, secondly, the *Curative*.

(To be continued.)

## CYCLING.\*

By A. WYNTER BLYTH, M.R.C.S., L.S.A., Medical Officer of Health and Public Analyst for Marylebone.

**HISTORY.**—The history of the application of mechanism set in motion by the feet or hands to four-wheeled carriages, is, I believe, anterior in time to the idea of two-wheeled machines. In the *London Magazine* for August 1769 there is an illustration and description of—"a chaise to go without horses by a certain John Vevers." It appears to have been a true velocipede—a large open carriage—and the footman sat behind and worked certain levers, while the master sitting in front, steered by a mechanism applied to the front pair of wheels.

In the early part of this century a strange machine of French origin was imported. At first it was called the "Dandy Horse," afterwards the "Hobby Horse." It appears to have become in a few months the rage of the fashionable world, then to have declined with equal rapidity. The decline was probably in part due to the storm of ridicule which the movement excited. The construction of the "dandy-horse" was very simple; two wheels of equal size, one in front of the other, connected by a wooden bar. The front wheel could be twisted by means of a suitable mechanism to the right or left; the rider sat on the middle of the bar, his feet on the ground, and by alternately pushing with his feet propelled himself along. Nothing could well have looked more absurd than a gentleman exquisitely dressed in the fashion of the times, going along the muddy streets in this guise. The caricaturists did not fail to take advantage of a sight so novel, so extraordinary. I have found in the British Museum twenty-five caricature prints, ridiculing dandy horses (1819–1821); probably there are more than these, for some may have escaped my notice. A few of the caricatures may be noticed. One for example, one of the best, is by Cruikshank, and is entitled *The Horsedealer*. In the foreground a coarse-looking man in shirt-sleeves and striped waistcoat is attempting to sell a "dandy horse" which two swells are regarding. The horse-dealer "warrants him sound and free from vice." One of the gentlemen rejoins that he does not think there is "quite barrel enough," the other swears "he has been down." Three horses stretch their necks out from an adjoining stable, staring at the phenomenon with looks of fear and curiosity. A surly groom sits scowling on a low stool with folded arms, while in the background are two or three mounted dandies.

There is another entertaining print, entitled "Bum-bailiff outdone, or one of the comforts attending the patent hobby-horse." A debtor is represented

\* A lecture delivered before the Balloon Society, Westminster Aquarium, July 21st, 1882.

cycling away from the bailiffs. A third print is subscribed, "The Spirit moving the quakers upon worldly vanities." A crowd of quakers with their broad-brimmed hats and long quaint coats are seen on dandy-horses, going to the meeting-house, the front wall of which is covered with hooks or pegs, upon which those who have already arrived have hung their wooden steeds.\*

On the dandy or hobby-horse dying out, the velocipede took its place. The history of the early velocipede can never be told in its entirety, for it is a history of isolated efforts made by ingenious mechanics, working under every kind of disadvantage. Machines were, however, produced—rough, complicated, and clumsy; a few showed distinctly germs of the modern improvements. The idea of two wheels, the one provided with pedals, took a practical form certainly as early as 1862, for in the exhibition of that year a machine was exhibited, but it made no mark, nor was it until fourteen years later that anything approaching the modern bicycle was adopted in England. In that year Mr. Charles Spencer introduced the two-wheeler, which has been called the "bone-shaker." The wheels of the "bone-shaker" are of nearly equal size, the machine is constructed of wood, it is heavy, and possesses a rigidity justifying its name. Nevertheless, on such a machine, Mr. Spencer rode from London to Brighton, a feat recorded in the *Times* of February 19th, 1869.

From 1868 up to the present, the record of the wheel has been one of progress; the substitution of iron and steel for wood, the invention of the spider wheel, the application of india-rubber to the tyre, and ball-bearings to the wheel, combined with almost perfect springs, have reduced friction and vibration to a minimum.

A few years ago, a distinguished mathematician, held that it was impossible for cycling to be a saving of labour, for, said he, you have to move your own body in addition to that of the machine. Experience has proved this view to be altogether erroneous, for distances can be accomplished by cyclists, which are simply impossible to the mere pedestrian, and with less fatigue. The explanation is, I believe, simply this. When we stand or walk, the weight of our bodies

\* The titles of some of the other prints are as follows:—"A raw Irish jaunting car, the dandy's hobby; the velocipede or the perambulator by which you can walk at your ease, and are able to walk in the mud at the same time." "A land cruise on one of the patent hobby-horses exhibiting at the west end of town." "Going to Hobby Fair." "The ladies accelerator." "Parsons' hobby, or comfort for a Welsh curate." "Anti-dandy infantry, or the velocipede cavalry unhobbed." "Collegians at their exercises, or brazen-nose hobbies." "Stop him who can, or the English patentee introducing a French hobby-horse, or a bit of a rush down Highgate Hill to Long Acre." "Everyone on his hobby." "The female race, or dandy chargers racing at Maidenhead."

presses on the ground, representing a force which in no way aids progression. It is lost; but on the wheel this force is utilised. The difference between walking and cycling is then as follows. Walking is wholly muscular exertion; cycling is one-third muscular force, two-thirds weight force or gravity. The cyclist alternately puts his weight first on one pedal, and then on the other, and the chief part of the muscular force used is not used in directly rotating the pedals, but in this shifting of the weight of his body. A long walk tires the ankle joints, the knees, and the hips, in part from the very weight they have to support, and this weight, so long as we walk, is continuous, but in cycling it is discontinuous. In cycling the main stress is on the muscles in front of the thigh; in walking, the calves and the muscles moving the feet are among the first to get weary, but so little is this latter the case on the wheel, that a rider, after a long and sustained effort, often feels quite up to any reasonable amount of walking.

**SPEED OF BICYCLES.**—With regard to the speed of bicycles, from the records of races, we are enabled to speak with some precision. As might be expected, the speed diminishes with the distance to be traversed.

Mr. Cortis, an athletic surgeon, has ridden the mile at a little over twenty-two miles per hour. Mr. Falconer has cycled two miles at a little over nineteen miles per hour. Twenty-five miles have been ridden at an average speed of eighteen seven-tenths miles per hour. Fifty miles at a speed of seventeen three-tenths per hour; and, lastly, a hundred miles, in the Bath competition, have been cycled in seven hours and twenty-six minutes, or an average of thirteen two-eighths miles per hour.

The speed of tricycles cannot be said to have been settled; the machines are, however, rapidly approaching in perfection the bicycle, and though it is improbable that they will ever attain such high speed as the two-wheel, they have advantages which, to a great extent, compensate for a little slower movement.

**TRICYCLES AND BICYCLES COMPARED.**—Tricycles are less dangerous; they are more comfortable for touring purposes, since a larger amount of personal luggage can be carried, and it is so much easier to stop when and where you choose and enjoy the scenery. On the other hand, bicycles have not alone the convenience of swiftness, but of being easily stored. In the future, without doubt, each morning will be seen some twenty or thirty thousand cyclists coming towards their business in commercial centres, and if each of them are to ride tricycles, the matter of storage might be difficult, without considering the yearly rent for warehouse room; but a bicycle can stand in a passage, in an office, an area, or almost anywhere, and, lastly, not the least advantage is the greater readiness, in case of injury to the rider or the machine, that the bicycle and

rider may be conveyed by a hansom, or any other light carriage, to his home or a railway station.

**WHAT IS THE BEST MACHINE TO BUY?**—As to the question, What is the best bicycle or tricycle to get? the answer is, that there are so many varieties of machines, and so many different wants to satisfy, that each must judge for himself. With regard to bicycles, those who have practically studied the subject are unanimous in their opinion that for each height of rider there is a diameter of wheel which cannot with any comfort be exceeded. It is possible for men of ordinary height to ride very tall machines, but they do so with much greater labour and risk than if they rode machines suitable to their height and length of leg. Learners generally, and middle-aged men, might do worse than to get a "Facile," a much safer steed than the ordinary bicycle. A little time ago, a gentleman, nearly sixty years of age, did a hundred miles in the day on a "Facile," so that, although a small machine, it is capable of doing good work.

With regard to tricycles, there are all kinds of makes; they may be divided roughly into those that have the steering-wheel behind, and those that have it in front. The former class were at first in favour, but at the present time riders, with justice, prefer the Salvos, Cheylesmores, and Fleets, all front steerers. The Humber, it is true, though a rear steerer, is a great favourite; but the Humber is a special machine altogether. Those who, knowing nothing practically about tricycles, yet wish to purchase one, should go to some of the numerous establishments where machines are let on hire, and try every make they think is most suitable for their particular requirements; otherwise, they may buy a machine which they will afterwards be glad to part with at a loss.

**CYCLING FOR LADIES.**—Ladies are now cycling, and their numbers are daily increasing. For ladies, the best possible machine is a Sociable, always provided they can get a companion, who should preferably be a male cyclist. In this way, the lady learns with ease; she is provided with a suitable escort, and, if anything goes wrong, she has assistance at hand. Besides the advantages of the Sociable for ladies, the machine itself has intrinsic merits likely to render its growing popularity permanent. On a long tour—a companion is almost a necessity for any enjoyment—a Sociable will carry any reasonable amount of luggage; there is a division of labour, the moving of three wheels is divided among two persons, and, lastly, it is far safer in descending a steep hill than any other machine.

A very special machine has been brought out by the Centaur Coventry Company, in which four people propel the three wheels of a tricycle. The labour of movement is here minimised, for to each person there is only about seven-tenths of a wheel. In all

probability, this machine will become a great favourite wherever there is an adult cycling family.

**LONG JOURNEYS.**—Wonderful journeys have been done on the modern machines; a cyclist has ridden on a bicycle 202 miles in the twenty-four hours.\* The Rev. H. G. Simms rode from Birmingham to near Brighton in about twenty-two hours, a little over 154 miles, on a Coventry rotary tricycle. Messrs. Bird and Marriott, the one on a Humber bicycle, the other on a Humber tricycle, rode from Derby to Holyhead within the twenty-four hours, a distance of 180 miles.

**THE USE OF CYCLING.**—Tricycles or bicycles are used at the present time by many rural postmen in different parts of the world, by clergymen, by medical men, by policemen, and it has even been gravely proposed that a volunteer battalion of cyclists should be formed. This idea, at first sight whimsical, on close examination seems both feasible and practical. What quicker and more convenient method, indeed, is there of transporting, in a few hours, a thousand or two thousand men, armed with weapons of precision, to occupy a distant part, and hold it, for a few hours it may be, against a superior force, until the main body comes to their assistance; or, again, what readier method of transmitting intelligence is there, in the presence of roads, and the absence of rail or wire. But the great boon of cycling—leaving the volunteer battalion to its merits—is its value to the working man in the extension of his residential area. The working men in our great cities have to live, for the sake of proximity to their work, in crowded tenements, in which cleanliness is difficult, and pure air impossible, while their progeny, cramped up in a single room, grow up under conditions unfavourable to their health, and inimical to their morality. But let the working man save his money and buy a bicycle (the larger and broader tricycle will in nearly every case be out of the question, on account of storage room). A radius of ten to fifteen miles is then open to him, and if he has to get up an hour earlier in the morning, and to come home an hour later in the evening, the benefits of purer air, cheaper and better accommodation for himself and family, will in the long run more than repay. Any cheap means of locomotion, which has a tendency to make the English home healthier by relieving the pressure that has hitherto herded men and women together like penned-up animals, should receive the hearty support of the hygienist, the philanthropist, and the legislature.

\* There have recently been performed on the bicycle longer distances. Mr. W. S. Britten has ridden to Bath and back in the twenty-four hours, 212 miles. Mr. W. F. Sutton rode 222 miles in twenty-three hours and fifty-five minutes, twenty-one and a half of which he was in the saddle! This is certainly a feat which it will be difficult to imitate or exceed.

**THE BEST FOOD FOR THE TOURIST.**—I may be expected to say something relative to the best food for the cyclist, the more especially when he is making a prolonged effort; but I have studied the diets recorded as in use, and find that those who have done long journeys successfully, have used that class of diet which science has shown most suitable for muscular exertion, viz. one of a highly nitrogenised character, plenty of meat, eggs and milk, with bread, but not much butter, and no alcohol. I have cycled for over fifty miles, taken frequent draughts of beer, and under these circumstances, although there has been no alcoholic effect, it has caused a great physical depression. The experience of others is the same. However much it may stimulate for a little while, a period of well-marked depression follows. I attribute this in part to the salts of potash which some beers contain, in part to injurious bitters, and in part to the alcohol. My own experience as to the best drink when on the road, is most decidedly in favour of tea. Tea appears to rouse both the nervous and muscular system, with, so far as I can discover, no after-depressing effects.

**CONCLUSION.**—Those who witnessed the colossal meet at Hampton Court of over two thousand riders, or who have even casually marked the great development of cycling, as can be seen in the enormous manufacture, in the excellence, variety, and ingenuity of the machines, or in the large periodical literature devoted entirely to the interests of cycling, or in the numerous clubs and associations, or, lastly, in the simultaneous rise of a hundred minor industries dependent on the greater, may well ask where will it end? Steam tricycles; electric bicycles; the whole Metropolis paved with wood or asphalt; the great main roads of the country re-constructed, with a special reference to the cyclists' requirements; the rise again of the old coaching inns, under the name of cycling hotels; all these are possibilities, some are probabilities. In any case, I trust I have shown that the wheel has its *raison d'être* and its uses, and that its great future may be confidently forecasted. The wheel is a temperance organ; alcoholic excess is fatal to long rides. The wheel is abolishing the groups of idle young men, on highdays and holidays, standing at the corners of the streets, generally full of mischief, a mischief sometimes deepening into crime. The pent-up passions now evaporate with copious perspiration in road and lane.

The wheel is a civiliser; the knights of the road have a freemasonry of their own; they meet together, they help each other, and are knit into one mighty brotherhood by mutual sympathies.

Fortune herself is a cyclist,  
Long Live the Wheel!

*Sanitary Record.*

## TYPHOID, OR PURE WATER?

WE have often in our columns called the attention of the public to the danger of taking lodgings at seaside and other health-resorts, without first of all making full inquiries as to their sanitary condition, and in our August number we devoted a considerable portion of our space to the subject. It appears that our warnings have not been unnecessary, for we find that a London clergyman, anxious to recruit his health and that of his family by a sojourn at a health-resort, decided to visit Chagford, near Exeter, believing that place to be a very suitable and healthy spot. Rooms were taken in a charming cottage in the suburbs of Chagford, the owner informing the parson that there had been no sickness in the house except one case of diarrhoea. The parson's family soon became ill, and typhoid fever developed. Shortly after, it was discovered that the occupier of the house had been suffering from that same complaint for weeks past. Of course the fever ran through the family very quickly, with the result that the footman died, and the others recovered with difficulty. The Board of Guardians next came on the scene, and the doctor declared that he warned the landlady not to let any more lodgings for the present. It is the old story re-told. Innocent-minded people, ignorant of the unpleasant tales that are told by rural sanitarians, imagine probably that because a house is surrounded by trees and fields, instead of by bricks and mortar, it is bound to be well sanitated. The delusion is too obvious. We advise people who have any regard for their health, to avoid pretty, old-fashioned, rustic cottages, and to be content with new houses, modern improvements, and fewer trees. We do not mean that trees are injurious to health; on the contrary, they are most beneficial as a rule, but houses that are completely smothered with vegetation, especially if on low ground, cannot be healthy. Above all, the strictest inquiries should be made regarding the state of health of the previous occupier, by all visitors to a health-resort. If people would only consult the death-rate of a place, instead of hastily making up their minds to go there simply because they hear it is healthy, a good deal of misery would probably be avoided. We have before us now the *Eastbourne Gazette Pictorial Supplement*, to whose editor the good people of Eastbourne owe so much, and from it we learn that the death-rate of that charming health-resort is only thirteen per 1,000. This remarkably low death-rate places Eastbourne at the very top of the list of English health-resorts, and is to be accounted for by the fact that the Eastbourne people have paid attention to the very point that has been so carelessly and fatally neglected by the Chagford people. The supply of water from the well was at fault at the Chagford cottage, and the consequence was, death to one, and serious illness

to others. At Eastbourne, on the other hand, we find that the authorities have been alive to such important points, and have provided the town with an excellent supply of water, which, with the splendid position of the town, and the perfect system (Shone's) of drainage adopted, has rendered it one of the healthiest towns in the country. The attractions of the town and surrounding country also, as set forth in the *Gazette Pictorial Supplement*, are many and great, and add considerably to the enjoyment of this elegant and delightful place. The large circulation of the *Pictorial Supplement* cannot fail to do the town great service by bringing visitors from the Metropolis and other large centres, and, as we said before, the Eastbourne people owe much to its editor for so persistently and faithfully keeping before the public gaze the exceedingly low death-rate, perfect system of drainage, good water supply, and other advantages of the place.

FISH AND "MEAT" AS FOOD.—There is some danger of the fish question falling out of memory. This is not to be tolerated after the interest which has been excited, and for some time maintained, in connexion with this important phase of the food problem. Whatever may be the nutritious value of fish as food—and we believe that to be very great—it must be evident that a full and cheap supply of fish would react so as to produce a lowering of the price of butcher's meat. The "purveyors," as they like to be called, are encouraged, and, in truth, enabled, to keep up the price of flesh, because there is nothing to compete with it as a staple of the common food of the people. A revival of the old and healthy habit of living largely on fish would place the meat supply on an entirely new footing. This is manifest on the face of the facts; but what may not be equally apparent, though it is scarcely less noteworthy, is the consideration that nervous diseases and weaknesses increase in a country as the population comes to live on the flesh of the warm-blooded animals. This is a point to which attention has not been adequately directed. "Meat"—using that term in its popular sense—is highly stimulating, and supplies proportionally more exciting than actually nourishing pabulum to the nervous system. The meat-eater lives at high pressure, and is, or ought to be, a peculiarly active organism, like a predatory animal, always on the alert, walking rapidly, and consuming large quantities of oxygen, which are imperatively necessary for the safe disposal of his dissimilated material. In practice we find that the meat-eater does not live up to the level of his food, and as a consequence he cannot, or does not, take in enough oxygen to satisfy the exigencies of his mode of life. Thereupon follow many, if not most, of the ills to which highly civilised and luxurious meat-eating classes are liable. This is a

physiological view of the food question, and it has bearings on the question of fish supply which ought not to be neglected.—*Lancet*.

**POISONOUS HAIR-WASHES.**—The labels on many of the compositions which are intended to conceal the effects of age as shown in the colour of the hair, &c. or to alter the tint of a lady's locks to suit the fashions of the day, inform us that the particular composition in question must not be considered as a dye, and that it contains no poisonous ingredients. We call attention to certain evidence given at a recent meeting of a medical society in London. In a discussion on a paper on lead-palsy, one member related the case of a lady who suffered severely from that affection after using a hair-wash for two years, her wrists being particularly affected, as is usual in lead-poisoning. Her cousin, who had used the same wash for a similar length of time, also suffered from distinct symptoms of lead-palsy. A second member had observed three cases of the form of insanity produced by chronic lead-poisoning in persons who had used hair-wash; and a third related his experience of two instances of lead-colic traced to the same cause. We are not concerned with the private prejudices of those who are sensitive about hair-lotions being called "dyes," or simply "washes"; but such persons should be aware that changes in the tint of the hair can only be effected by strong chemical agents, which, in spite of assurances on labels, may sooner or later seriously affect the health of those who employ them.—*Brit. Med. Journ.*

**ALLEGED CASE OF FASTING.**—An account has been published in the daily press of a singular case of fasting that has recently occurred at Reigate, where a woman, aged 84, has, it is alleged, lived without food or drink for fourteen days. The woman, who has been obtaining her livelihood by laundry work, states that she left Brighton for London on foot, in search of work. She reached Reigate in a penniless condition, and feeling ill and exhausted, entered a shrubbery, where she made up her mind to lay down and die. It is stated that the woman has described several circumstances that took place within her view and hearing during the time. Upon being found, she was taken to the police-station, and was seen by two medical men, and carefully treated. It is very singular, as the report explains, that, in a short time after her admission to the workhouse, she partook of the ordinary diet without experiencing any ill effects. The woman is now doing well, but she is persistent in insisting on the truth of her statement.

### REVIEWS.

*The Climate of the Undercliff, Isle of Wight*, by J. L. Whitehead, M.D. (Churchill). This valuable book consists for the most part of statistics setting

forth the value of the south coast of the Isle of Wight, called the Undercliff, as a winter health station. The author must have been at a great deal of trouble to get the information, which extends over a very long period, and is in every way complete, and will no doubt have the satisfaction of seeing his labour bringing forth fruit in the shape of more invalids to derive the enormous benefit that is to be obtained at this very valuable and charming winter health station, with its winter daily range of 7-10°, its winter mean temperature of about 41°, and its winter rainfall of about 7 inches.

*The Army and Navy Calendar for 1882-83* (W. H. Allen & Co.).—This complete and well-known calendar is now published, and contains all information relating to the army, navy, militia, volunteers, with maps, plans, tabulated statements, abstracts, &c., compiled from authentic sources. The usefulness of such a work is too apparent to need any further comment, and, therefore, the only remark we need add is that the present edition has been considerably enlarged by extra maps and plans, summaries of the courses of instruction at the different military schools, examination lists, &c.; and also more space has been given to the volunteer department.

### CORRESPONDENCE.

To the Editor of THE FAMILY DOCTOR.

THE NEW "HANDBOOK OF DOSIMETRIC THERAPEUTICS," BY DR. BURGGRAEVE.

DEAR SIR,—Will you kindly allow me to inform your readers that the above work, which was reviewed in the September number of your valuable paper, can be obtained direct from me at a reduction of 4s. for cash. The publishing price is 10s. 6d. per copy, but I can supply it direct for 6s. 6d. I shall be greatly obliged by all orders being sent to me for the above work. Certain circumstances have rendered this notice necessary.

I am, dear Sir,

Yours truly,

24, Park Square, Leeds, H. A. ALLBUTT, M.R.C.P.E.  
September 12th, 1882.

M.D. writes to inform *Tourist* that he is not aware of any disease of the joints that is brought about by using a bicycle or a tricycle. He has used one for some time with no ill-results.

*Enquirer*.—H<sub>2</sub>O. CO<sub>2</sub>.

*Jumbo*.—Certainly. You would perhaps fail. We see an inconsistency in your objection to the infliction of pain on animals for the purpose of benefiting the human race and at the same time being a meat-eater. You ought to embrace vegetarianism.

*Lex*.—We think so.

The following books, &c. have been received:—*Cookery and House-keeping*, by Mrs. Henry (Longmans); *The Voice*; *Eastbourne Gazette*.

All letters and other communications for the Editor should be addressed to him at the Publishing Office, and will be considered as private communications for himself. If for publication, they should be written legibly, and on one side of the sheet only.

Communications relating to subscriptions and advertisements should be addressed to the Publishers.

No notice will be taken of communications unless authenticated by the name and address of the author, which need not necessarily be published.

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# THE FAMILY DOCTOR.

## GERMAN HEALTH RESORTS AND SPAS.

### ARTICLE VI.

By HERBERT JUNIUS HARDWICKE, M.D., F.R.C.S., M.R.C.P., &c., Hon. Physician to Sheffield and South Yorkshire Ear and Throat Hospital, and to Sheffield Public Hospital for Skin Diseases.

UNDER this heading will be included all the watering-places in the various kingdoms and states included in the empires of Germany and Austro-Hungary. The enormous tract of country known as Germany, in spite of its proportions, possesses a remarkably uniform mean annual temperature, excepting the small portion south of the Alps, which has a very varied climate. The other and far larger part of the empire is so uniform in its temperature that there is never a mean annual difference of more than 5°, the range being from 45° to 50°. This is owing to the fact that the northern part of the empire is very low ground, which renders its climate warmer than the latitude would imply, and that the southern part is very high ground, with the reverse condition of climate. The mildest climate is to be found in the valleys of the Rhine and Main. In the remainder of the empire the winters are *very* cold, and the summers are *very* hot.

Austria differs materially from Germany in regard to its climate, which is as variable as it can possibly be, having a rainfall in its Alpine districts higher than any in Europe, while in Hungary it is very small indeed. In the north the average temperature is similar to that of France, whilst in the south the heat of summer is terrific and lasts about nine months of the year, the winter being very short and mild.

The following are the health resorts and spas of the two empires in alphabetical order.

AACHEN (Aix-la-Chapelle) is the principal of the German thermal sulphur spas and is situated in

Rhenish Prussia, about 80 miles south of Spa, and at an elevation of 534 feet above sea-level, at the foot of a range of well-timbered mountains. The town is divided into two parts, the old town, in which are the wells, and the new town, where the visitors reside. The springs, also, are divided into two sets—the upper, or hot ones, and the lower, or warm ones—and contain chloride, bromide, iodide, and sulphuret of sodium, carbonate and sulphate of soda, sulphate of potash, the carbonates of lime, magnesia, lithia and iron, and silica. The “Kaiserquelle” is the one principally used for drinking, and has a temperature of 129·2°. The next most frequently used for drinking is the “Elisenbrunnen,” which has a temperature of 110°, and is situated between the old and the new town. At these springs the visitors congregate daily, between the hours of 5 and 8 A.M., and again in the afternoon, for their potations and promenades. The quantity usually taken at one time is from 8 to 16 ounces, according to the fancy. There is a chalybeate well in the Theater Strasse, with a bathing establishment. The names of the springs beside those already mentioned are the “Emperor’s Spring,” “Cornelius Spring,” “Rose Spring,” and “Quirinus Spring.” The arrangements at Aachen are excellent, and the douches are second to none in Europe. Rheumatism, gout, paralysis, atonic dyspepsia, biliary obstructions, and skin-diseases are the diseases principally treated.

ALEXISBAD lies in the charming Selke valley of the Hartz mountains, 1,850 feet above sea-level, and possesses good and cheap bathing arrangements. There are two chalybeate wells; one, the “Selkebrunnen,” being used altogether for baths, and the other, the “Alexisbrunnen,” which is similar to the “Pouhon” at Spa, being used for drinking only. There are pine-extract baths, hydropathic institutions, and a whey-cure establishment in the place. The waters are useful in anæmia, chlorosis, and general debility, and are very popular with the Germans.

ALTWASSER is a small chalybeate spa, situated 1,255 feet above the level of the sea, between Salzbrunn and Charlottenbrunn, in Silesia, and is a very attractive place for quiet people, being quite free from fashion and town life.

APOLLINARISBERG is a small and lovely spot in the Ahr Valley, close to Neuenahr, near the Rhine, and possesses a celebrated alkaline acidulous spring, the “Apollinarisquelle,” or “Apollinarisbrunnen,” from which source is obtained that well-known table water so often met with in this country, the Apollinaris water. The temperature is 62·6° F., and each sixteen ounces contains 9·6 grains of carbonate of soda, 8·5 of chloride of sodium, 2·8 of sulphate of soda, and 8·8 of carbonate of magnesia, with a small quantity of iron and 47 cubic inches



of carbolic acid. This water is a useful mild aperient, and is very valuable in chronic bronchial catarrh, tendency to gall stones and gout, and in catarrh of the stomach.

ARNSTADT is a muriated saline spa in the Thuringian forest, 900 feet above sea-level, and surrounded by beautiful woods. There are whey-baths, sool-baths, pine-baths, and other conveniences.

AUSSEE is a very celebrated health resort and spa on the Traun, in Styria, in a beautiful and sheltered situation 2,075 feet above sea-level. It can be reached from Ischl or Lietzthal. The chief features of the place are the sool-bath and the sanatorium of Dr. Schreiber, which contains cold-water and whey-cure establishments. The climate is very suitable for some forms of consumption, but does not suit hæmoptysis.

BADEN-BADEN is the most fashionable lounge, and one of the most picturesque and pleasant baths in Europe, situated 618 feet above sea-level, in a splendid valley not far from Strasburg. The climate is mild and agreeable in winter, and the hotels and establishments are on a magnificent scale. There are about thirteen thermal muriated-saline, or, as they are termed by some, indifferent springs, varying in temperature from 114° to 154° F., and containing 22 grains of fixed component parts in 16 ounces, including a trace of arsenic. The "Murquelle" contains also 0.4 and the "Fettquelle" 0.28 grains of chloride of lithium. The chief complaints treated here are chronic rheumatism and gout, abdominal congestions, and catarrh of stomach, but most people visit the place on account of its being a fashionable lounge, and not with the object of benefiting by the waters.

BADEN, near Vienna, situated in the beautiful forest of Wiener Wald, is one of the largest and most fashionable baths in Europe. The establishments and hotels are on a magnificent scale, with enormous swimming baths surrounded by balconies for promenaders, and a whey-cure house. The waters are sulphurous, contain rather more sulphuretted hydrogen than those of the Swiss Baden, and have a lower temperature, the principal spring being 95° F., and containing, in 16 ounces, chloride of sodium 1.990 grains, chloride of magnesium 1.615, sulphuret of magnesium 0.125, carbonate of soda 0.582, sulphate of soda 2.128, sulphate of potash 0.489, carbonate of lime, 1.805, silica 0.185, sulphate of lime 5.656, and sulphuretted hydrogen 0.082. Chronic rheumatism and gout are the diseases here treated.

BADENWEILER, an indifferent thermal spa of the Upper Breisgau, in the Black Forest, not far from Mülheim, is situated 1,480 feet above the sea-level, and has a very mild climate, the prevailing winds being westerly. It is celebrated as a health station for chest complaints, and also for its whey-cure

establishment. The temperature of the waters is 815° F, but the baths are generally taken at a higher temperature.

BERTRICH is a quiet spa in a narrow and charming valley of the Moselle, situated 500 feet above sea-level, and containing waters which have been described by some as glauber salt waters (alkaline-saline), whilst in reality they are simply indifferent thermal waters of a temperature of 95.5°, containing rather more salts than indifferent springs usually have. They are principally used in affections of the nervous system, chiefly female. The climate is very mild, and the surrounding country exceedingly beautiful. Who has not heard of Ehrenbreitstein, the fortress of the Rhine? Well, Bertrich is but a short sail from there through Coblenz and along the beautiful Moselle, and is well worth a visit to anyone who may be in search of a quiet, cheap, old-fashioned and lovely spa, at which to rest quietly and enjoy that perfect repose which is so necessary to an overwrought nervous system.

BLEN is the most alkaline spring in Germany, and is situated close to Teplitz, in Bohemia. Its waters, which are chiefly exported, contain, in every 16 ounces, bicarbonates of soda 88 grains, of lime 4.8 grains, of magnesia 1.6, and of iron 0.08, sulphate of soda 6.8, chloride of sodium 2.9, and carbonic acid 88 cubic inches. Their temperature is 58.6° F., and they are used principally in catarrh of the bladder, gout, gravel, and diabetes.

BUNZEN, a charming town at the commencement of the Rhine Gorge, not far from Mainz, is celebrated for its grape-cure establishments. This cure consists of simply eating a quantity of grapes under the supervision of a physician, who regulates the quantity, allowing sometimes three, sometimes six, and sometimes even twelve pounds daily; the grapes must be quite ripe and have thin skins, and after entering the stomach are deprived of their sugar, which becomes absorbed and converted into lactic acid. The result of a course of this treatment, which need not be described at great length here, is to cause slight purging, improve the digestion and increase the secretion of bile. It is useful in dyspepsia, jaundice, and abdominal congestion.

BOCKLET is a chalybeate spa about two hours distance from Kissingen, up the valley of the Franconian Saale, and is situated 620 feet above the level of the sea. It has a mild climate and a rich spring containing in the pint 0.67 grains of carbonate of protoxide of iron, 6.54 of bicarbonate of lime, 8.60 of bicarbonate of magnesia, 4.48 of chloride of magnesium, 6.55 of chloride of sodium, 2.54 of sulphate of soda, 8.28 of sulphate of magnesia, and 89 cubic inches of carbonic acid. These waters are very beneficial in anæmia and chlorosis, atonic dyspepsia, and general debility.

**BOLL** (Bollbad) in Württemberg, is a weak sulphur spring used principally by the natives.

**BOPPARD** is a small place on the left bank of the Rhine, noted on account of having in its vicinity two largely-patronised hydropathic establishments—**Marienberg** and **Mühlbad**.

**BRÜCKENAU**, a secluded spa, 915 feet high, lying amongst the Rhön mountains, near Kissingen, possesses a pure chalybeate spring with one-tenth of a grain of iron and thirty cubic inches of carbonic acid to the pint of water. There are excellent bath arrangements, with moor baths, vapour baths, and all other kinds.

**BURTSCHIED** is situated not far from Aachen, and possesses similar waters, the hottest spring having a temperature of 166°.

**BUSSANG** is a small weak chalybeate spa in the Vosges, near the Moselle. The waters, which contain a trace of arseniate of soda, are not much drunk on the spot, being largely exported for table use.

**CANNSTADT** is a spa of considerable notoriety, not far from Stuttgart, in a beautiful valley, 600 feet above the level of the sea, and possessing a very mild climate. The waters are simple, muriated, or, according to some, indifferent thermals, with a temperature of about 68° F., and from 19 to 27 cubic inches of carbonic acid to the pint; are slightly aperient, and are very valuable in dyspepsia. There are also two excellent establishments here, one for the cure of chronic skin diseases and the other for the treatment of orthopædic cases.

**COLBERG**, a small town in Pomerania, on the coast of the Baltic, is a sool-bath of some repute in North Germany.

**CRONTHAL**, on the Taunus, near Soden, is situated 500 feet above the level of the sea, in a lovely valley, and possesses indifferent thermal springs, which are useful in skin diseases.

**DREIBURG**, in a lovely valley in Westphalia, a few hours from Paderborn, is situated 650 feet above sea-level, and has a bracing climate and a good chalybeate spring, with a temperature of 50° F., 28 cubic inches of carbonic acid, and a trace of arsenic. There are also mud-baths and sool-baths to be had.

**DÜRKHEIM** is a celebrated grape-cure station in Bavaria, situated 860 feet high at the foot of the Haardt mountain, and has an equable and mild climate. The waters are weak salt-springs, which are strengthened by the refined sool obtained from the salt-works whenever stronger baths are required. There are traces of iodine and bromine in the waters. There is also a whey-cure establishment.

**EICHWALD** is a small village in the forest of Fichtelgebirge, not far from Teplitz, and celebrated as a health resort in lung diseases.

**EISEN**, in Lippe-Schomburg, 275 feet high, is a

small spa situated in a beautifully timbered valley, but not much frequented. Its waters are strong sulphurous, containing sulphuretted hydrogen, sulphate of lime, carbonate of magnesia, carbonate of oxide of iron, silicate of soda and carbonic acid, and having a temperature of 54·5° F. There are inhalation rooms, moor-baths, mud-baths, and ordinary baths.

**ELMEN**, a Prussian sool-bath spa, near Magdeburg, is of great local celebrity, its waters containing a large quantity of chlorine compounds, besides some bromine.

**ELSTER**, a small Saxon bath, lies in a pleasant valley, 1,460 feet high, between Plauen and Franzensbad, not far from the Bohemian frontier, and has a mild and invigorating climate. The waters are alkaline-saline and somewhat similar to those of Franzensbad, but contain a larger quantity of iron. The "Königsbrunnen" is richest in carbonic acid, and very little poorer in sulphate of soda and chloride of sodium than the "Marienbrunnen," which is very rich in sulphate of soda, but ranks third in regard to its quantity of carbonic acid. The "Moritzbrunnen" contains most carbonic acid, but is very poor in salts. The "Albertsbrunnen" contains the least quantity of carbonic acid as well as salts, with the exception of sulphate of soda, in which it is the richest of all, except the "Salzquelle," which contains no iron and has a lower temperature than the other four, the temperature of all of which is 50° F., and the constituents of which are, in various proportions, sulphate of soda, chloride of sodium, bicarbonate of soda, carbonates of lime and protoxide of iron, and carbonic acid. The principal diseases benefited by these waters are catarrh of the stomach and gout. Moor-baths are frequently used, and there is a whey-cure establishment.

Ems is said to be the loveliest spa in Germany, if not in Europe, and is situated in the valley of the Lahn, 291 feet above the level of the sea, and not far from Coblenz, from which it can be reached by rail. It contains the oldest and most famous soda-spring, and its waters (alkaline muriated acidulous) combine a moderate amount of bicarbonate of soda and carbonic acid, with a fair amount of chloride of sodium and small quantities of bicarbonates of lime and magnesia. The temperatures of the various springs vary from 81·5° to 114·8° F. This is the only soda-water containing common salt that is thermal. The principal springs are the "Kränchen," temp. 84·2° F., and the "Kesselbrunnen," temp. 114·8° F., both used chiefly for drinking; the "Fürstenbrunnen," temp. 95° F., and the new well, temp. 117·5 used principally for baths; and the "Bubenquelle," temp. 104° F., used only for uterine douches at a temperature of 90°. This latter had, until quite lately, a great reputation as being a universal remedy for sterility. The Ems

waters are principally used in bronchial and laryngeal catarrh, gout, catarrh of the stomach, chronic dyspepsia, and diarrhoea, dysentery, leucorrhoea, and sterility. There are milk and whey-cure establishments here, carbonic acid gas inhalation-rooms, and public-rooms magnificently appointed, with every possible amusement and delightful society. On the whole, it is one of the most delightful, and amongst women the most popular spa in Europe.

FACHINGEN is, next to Bilin, the strongest soda-spring in Germany, is situated in the Lahn Valley, and its waters contain five grains of bi-carbonate of soda, and 0.08 grains of bi-carbonate of protoxide of iron less than the waters of Bilin. The temperature is 50° F., and the principal diseases treated by the waters, which are exported only, are catarrh of the bladder, gout, and gravel.

FLINSBERG, in Silesia, lies at an elevation of 1,550 feet, has a fresh climate, and pure, but weak, chalybeate waters.

FRANKENHAUSEN, near the Hartz mountains, is a quiet little soda-bath, much used by the Schwartzburg people.

FRANZENSBAD is a cold alkaline saline spa of great celebrity, although situated in such an unromantic spot, close to the dull town of Eger, in Bohemia. It lies at a height of 1,300 feet above sea-level, on an ugly moor, and possesses a fresh climate, a plentiful supply of springs, which are sometimes called acidulated alkaline-saline chalybeates, and differ only from the bitter-water springs in not containing any sulphate of magnesia. The principal springs are the "Louisenquelle," exclusively used for baths, the "Wiesenquelle," the "Sprudel," the "Salzquelle," and the "Franzensquelle," and they contain, in various proportions, the following salts: sulphate of soda, chloride of sodium, bicarbonates of soda and lime, and carbonate of protoxide of iron, with a plentiful supply of carbonic acid, and a temperature of about 50° F. The diseases principally treated are anæmia and chlorosis, female affections, and obstinate constipation. There are very excellent moor-baths, which are much used.

FREIENWALDE, on the Oder, is a very good chalybeate spa, much frequented by Berlin people. Anæmia is said to be quickly cured by a course of these waters.

FRIEDRICHSHALL, near Coburg, in Saxe-Meiningen, is one of the best bitter-water springs in Europe, containing, in sixteen ounces, the following proportion of salts: sulphate of soda, 46 grains; sulphate of potash, 1.5; sulphate of lime, 10; sulphate of magnesia, 89; chloride of sodium, 61; and chloride of magnesium, 80; with nine cubic inches of carbonic acid. These waters are not drunk at the spring, but are entirely exported, and used in cases of habitual constipation with very good effect.

FÜRED is a very popular Hungarian bath, situated

on the Platten See, a large saline lake, and possessing cold alkaline-saline waters, with a small quantity of iron and a large quantity of carbonic acid. The season is from May to September, and skin diseases are chiefly dealt with.

GASTEIN, one of the oldest and most important in different thermal spas in Europe, is situated 8,320 feet above sea-level, not far from Salzburg, and surrounded by magnificent alpine scenery. The climate is somewhat indifferent, owing to the heavy rainfall in June, July, and August, which often reaches twenty-two inches; the mean temperature in the same months is about 56° or 57°, and, except in the season, the cold is often excessive. Nevertheless, the high elevation of the place is most beneficial to many forms of disease, especially to irritable and weak constitutions. The bath arrangements are excellent, but it is not always easy to procure apartments, owing to the scanty lodging and hotel accommodation. There is, however, always plenty of room at Hof Gastein, a place about 600 feet lower down the mountain, to which the Gastein water is conducted in pipes, being then of the temperature of 95° F. The waters at Gastein vary in temperature from 96.8° to 114.8° F. in the springs, and from 95° to 99.5° F. in the baths. The diseases most benefited here are tabes dorsalis and impotence, also hysteria and hypochondriasis.

GEILNAU is a small alkaline spa, near Nassau. The waters are pure, but weak and cold.

GIESSTÜBEL is a small alkaline spa, near Karlsbad, having very similar waters to those at Geilnau.

(To be continued.)

## CONSUMPTION: ITS CAUSES, SYMPTOMS, AND SUCCESSFUL TREATMENT.

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(Continued from page 115.)

THE *preventive* treatment of consumption is all important. The greatest blessing bestowed upon man is health, without that the organs of the body are unable to fulfil their normal functions, and to a greater or less extent the mind suffers with them; for, however slight the deviation from health, the capability of the mind must of necessity be lessened. And more especially is this so in regard to the lungs; for how trivial are the pains of toothache, or earache, or headache, when compared with the constant and long-enduring pains that attend consumption. Without health, man is in reality a miserable and suffering being; with health, he is a mighty lord, and not only develops physical powers, but gives out the fruits of his mind, to swell the wealth of the community at large. This applies as much

to trade as to science; for no matter what kind of labour a man undertakes, let it be scientific or manual, if he be in ill-health, his trade suffers with him; and, as I have just stated, in no disease is this so forcibly shown as in consumption. It is an impassable barrier, which stops all study, and stagnates all business; hence, to *prevent* the occurrence of this disease, or, when it is present, to *cure* it, is a most vitally important matter; but the "prevention is better than cure," and I shall endeavour, before discussing the *curative treatment*, to bring before the reader's notice those means which can be adopted to prevent consumption.

The consideration of these means opens up a vast field of enquiry, and their success depends upon the manner in which they are carried out.

*Clothing.*—Every person who has a tendency to consumption, would do well to seriously consider his position, and ask himself how he can best be protected against sudden changes, to which we are so liable in this climate. This is to be done by judiciously clothing the body, a thing that very few ever set about doing in the right way. I get patients in the summer-time with at least twice too many coverings, and, again, in the winter, with not half enough. Now, clothing should always be sufficient to maintain a sufficient warmth, without producing a sensation of heat or inducing perspiration. The chest should be protected *back and front*, over its whole extent, more especially the upper part, for it is at the apices of the lungs that disease most often makes its appearance; and yet this is the part most frequently left exposed, or, if not actually bare, only covered by some thin flimsy material, which is perfectly useless as a protection against cold. In this fashionable age, ladies seem to me to rush to destruction in obeying the all-commanding dictates of *fashion*; the chest is left bare to the pitiless changes of a variable climate. In every ball-room delicate females are to be seen with chest and arms uncovered, going from the hot room to the street, waiting at the door for their carriage, and this, too, after an unusual strain on the physical system, when they are more than ever susceptible to the least draught. And how common is the result of this imprudence and folly; the hectic flush, the expectoration, the wasting away follows, and many a life that might have been valuable is cut down in the pride and joy of youth, many a beloved friend is lost, and many a parent has had to watch the lingering struggling death of their daughter, whose life might have been spared had she not exposed her chest to the varying temperature. The responsibility of this surely rests with the parents; "old heads cannot be put on young shoulders," and we cannot expect young persons to avoid fashion when their eyes are not opened to the danger; it, therefore, behoves parents to shield their children from

the dreaded disease by acting upon the dictates of a matured judgment.

Woollen vests and drawers should be worn always, but of different thicknesses, according to the season, and changed for thinner ones during the night. The upper and lower extremities should be well clothed, so as to prevent any feeling of cold; but if after these precautions cold is felt, then friction must be used. I have found in these cases that sponging the body (especially the lower extremities) *quickly* with cold water, and then using a rough towel for a short time, is an almost certain method of producing heat.

The excess of clothing I have mentioned is most injurious to the patient, when the sensitive skin is too heavily covered at night-time; the vital actions of the body are always at their lowest ebb from 4 to 5 A.M., hence if there be a super-abundance of clothing sweats will most assuredly occur, leaving the skin in the morning relaxed and excessively sensitive.

When the body is unduly covered during the day-time, there is always a great tendency to shock on the least exposure to cold air. I frequently get patients who, on this account, are afraid to undress, lest the air should come in contact with their soft and sensitive skin; and it not unfrequently happens, when they remove their clothing, that a cloud of vapour surrounds the body. Now, in both these cases there is excess of clothing, and it is necessary that the quantity of clothing should be diminished, and the body sponged with an evaporating lotion daily (equal parts of spirits of wine and white vinegar will be found about the best). Feather beds should be avoided.

With regard to under-clothing, it must be remembered that a closely-woven fabric is the only one that is fitted for the purpose. No amount of loose external clothing gives the same protection as a bad-conducting fabric which closely fits the body and is worn next to the skin. Hence the weight and thickness of the material is of secondary consideration to its *close manufacture* and tight fit; in fact, unless it does fit closely, it is comparatively of little value. It will not be out of place here, and may be of use to the reader, to make a few remarks on waterproof clothing. During the last few years the use of clothing which is impenetrable to wet has enormously increased. The wearers of these garments seem to forget that although they may defend the body from external wet, yet they at the same time prevent the exit of the vapour which is given off from the body; the result is, that when a waterproof coat has been closely buttoned, it will be found quite wet *inside*, and the underclothing in the same state. This most materially increases the temperature of the surface of the body, rendering the skin soft and very active. The same remarks

apply to the use of goloshes and patent-leather boots; the socks are in a continual state of moisture, causing the skin of the feet to become shrivelled and frequently abraded. It is true that for a short time, when first put on, this class of clothing increases the action of the skin, and, by retaining the heat, increases also the surface temperature; but after a time this passes off, and there is a sensation of cold with increased sensibility. It will be found that all persons who wear goloshes continually suffer from cold feet. It will be seen by this that persons suffering from the disease under consideration would do well to avoid the use of waterproof clothing, except under urgent circumstances, and then to discontinue their use as soon as possible. Recently, it is true, attempts have been made to ventilate coats, &c., but only with partial success.

*Diet.*—Much injury has resulted from delicate persons following rules which have been designed for universal application. It is impossible for such procedure to be attended with success; each individual constitution has its peculiarities, and if these are disregarded we oppose the dictates of nature. It seems strange that persons who well know no two articles of diet, however closely allied, are precisely similar, should expect that the same diet should be applicable to every person; stranger still does it seem that medical men, whose profession has made them thoroughly acquainted with the marvellously intricate economy of the human frame, should consider they have discovered a diet which is suitable to all persons in almost every stage of the disease. I am convinced that constitutional peculiarities are too little noticed, and in many instances put down to be mere fancies, or the result of habit, whereas unless each patient's idiosyncrasy be studied actual harm may accrue. No universal diet can be laid down to which we can point to say *that* is the most blood-producing in all cases. All of us must know some friend who has a peculiarity in regard to the digestion of food. Some persons cannot bear the smell of fish; others are the same in regard to cheese; and if they eat either of these articles of diet they are sure to suffer for it. The same is also the case with eggs, milk, &c.; the majority of persons can, of course, take either with relish and benefit, but here and there we come across a case where if an egg be taken, or even any pudding where eggs enter into its composition, a violent bilious headache and sickness is the result. I had a peculiar instance of this natural aversion a short time ago, in the case of a gentleman who whenever he smelt boiled turnips almost fainted; he had tried every means to overcome this disagreeable idiosyncrasy, but in vain, and once after eating a small quantity he was unconscious for a quarter of an hour. I wish to lay especial stress on this subject because so many medical men advise their

patients to do things which are absolutely hurtful; for instance, nearly everyone recommends early rising, a good walk before breakfast, and to return home light-hearted and vigorous. I have no doubt this can be enjoyed by many; but I know others, and myself among the number, to whom this would mean a day of languor and enervation. The same also with sleep; you frequently hear it said that so many hours are quite sufficient sleep for anyone, and to those who fail to follow their precepts it is attributed to laziness. No greater injustice could be paid, for many require much more sleep than others; and what brings health and happiness to one person may bring sickness, sorrow, and death to others. But to return to the subject of diet. Many persons who have, perhaps, seen the ill-effects of too great a consumption of meat, go to the other extreme and say meat is not required at all. Now this is a great error; diet should consist of a mixture of animal and vegetable food, the proportions, of course, being regulated according to the circumstances of each individual case.

Other persons, not content with making their stomachs work all day, make them work all night by eating a heavy supper almost immediately before retiring to rest, that meal frequently consisting of about as indigestible articles as could well be found.

Others, again, to save a *few minutes*, eat their meals most rapidly; true, by so doing a few moments may be saved, but how many hours and days are ultimately lost! the seeds of indigestion, dyspepsia, and other diseases are slowly but surely sown, and a bitter harvest has many a man reaped for the sake of saving these few moments of time.

The great thing we have to do in consumption is to get food which gives the highest blood-producing power. I shall presently give a dietary which, *as a rule*, I have found satisfactory with slight modifications. A diet consisting of large quantities of milk is of most essential service in consumption, it is easily digested (or, if not, the addition of limewater will render it so), it furnishes more support than vegetables, and it does not raise the temperature of the body as some other foods do, on account of its non-stimulating property; but what is usually termed a milk diet does not, I think, contain really enough to afford the most benefit. It should be taken for breakfast, in puddings at lunch and dinner, in coffee boiled in milk, and half-a-pint three times a day between meals.

In the night or early morning I have found that milk will frequently lessen the sweating, especially if a little coffee is added—it stimulates the action of the heart just at the moment it is required; and when the vital actions are reduced a *little* rum or brandy may be added to the milk.

In ordering patients any particular diet we must

have regard to their palates, and remember that a meal will be required to-morrow as well as to-day.

We have already seen that the vital actions are greatly diminished during the night, and that this is particularly the case in those who are suffering from consumption. It is, therefore, of the utmost importance that food should be supplied in the night as well as in the day. If there is no great debility meat should be taken sparingly. In cases, however, which require meat, it should consist of mutton, venison, hare, pheasant, partridge, poultry, &c; pork, veal, salted meats, &c., should be avoided, the latter frequently cause a hectic flush of long duration. Arrowroot, tapioca, rice and sago puddings will be found beneficial. I shall now give two dietaries, the first of which will be found suitable in the earlier stage of the disease, the second in the later stages.

*Dietary No. 1.*—Breakfast from 8 to 9 o'clock, to consist of milk (at least half a pint) with cocoa, coffee, or oatmeal; bread and butter, bacon, fish, or a lightly-boiled egg.

At 11 o'clock: a pint of milk with an egg beaten up in it.

At 2 o'clock: fish and roast mutton, or a mutton-chop, with as much fat as possible, poultry, game, &c., may be taken, with vegetables, and any of the before-mentioned light puddings. A glass of good ale may be taken, provided it cause no unpleasant symptom, such as flushing of the face, increase of the pulse, drowsiness, &c.; but a good Burgundy wine will in all cases be found preferable—this can be diluted with water, or not, at pleasure.

At 5 o'clock: fish, with milk and coffee or cocoa; bread and butter, and watercresses (these may be eaten of freely).

At from 8 to 9 o'clock a *light* meal must be taken consisting of three quarters of a pint of milk, with oatmeal porridge or farinaceous food, or two eggs beaten up in milk.

During the night: a glass of milk, if the patient wakes.

*Dietary No 2.*—Immediately on waking in the morning, half a pint of milk (this should be hot if possible), with a small slice of bread and butter.

At breakfast: half-a-pint of milk with coffee, chocolate, or oatmeal; eggs and bacon, bread and butter, or dry toast.

At 11 A.M.: half-a-pint of milk with an egg beaten up in it, or some meat-juice (the directions for making this I will presently give) and bread and butter.

At 1 o'clock: half a pint of milk with a tea-spoonful of rum or brandy added, and a biscuit or sandwich.

At 2 o'clock: hot meat as before described, or game, with vegetables and light pudding.

At 5 o'clock: hot milk with coffee or chocolate, bread and butter, watercresses, &c.

At 8 o'clock: a pint of milk, with oatmeal or chocolate, and gluten bread; or two lightly boiled eggs, with bread and butter, and warm milk to drink.

Before retiring to rest: a glass of warm milk.

During the night: a glass of milk, with a biscuit or bread and butter, should be placed by the bedside, and be eaten if the patient awake.

These dietaries, it will be seen, are very similar, and by adhering to them a larger quantity of food can be taken than it would be possible to give if the ordinary hours of meals were adhered to, and as it is taken in small quantities, the vital actions are not allowed to subside. It is, however, obvious that alterations must be made in certain cases.

The essential consideration in the dietary of patients suffering from phthisis is, that there should be an abundance of nitrogenous and fatty foods, with additions of starchy matter in such quantities as the consumption of fat demands; this must be most carefully attended to. In the foregoing dietaries, there are, I am aware, many articles which may be added, such as gelatine, isinglass, corn-flour, semolina, pea-flour, &c.

The meat-juice referred to is a most valuable item of food to the consumptive patient. It is best prepared thus: Take about two pounds of fresh beef without fat or bone, plunge it for a few minutes into *boiling* water placed over a good fire; this will harden the outside of the meat, and so afford resistance to pressure. Now cut the meat into small pieces, and pass them through a meat-press, when the juice will be expressed. This must be mixed with equal parts of a broth composed of stewed bones and gristle, thickened with vermicelli, and seasoned with salt and pepper.

No more should be made than is sufficient for one day's consumption. It may be taken at any time through the day, according to the appetite and digestive power of the patient.

All cough-lozenges and draughts should be avoided, as they invariably injure the stomach, and so diminish the appetite.

The consideration of alcohol as a food is a vexed question, except to some prejudiced minds, who decide once and for all that it is not only *useless in any instance*, but absolutely hurtful, that it contains no nutritive property, and is *never* needed in health or disease. Now, it is a known fact that alcohol can support life, when little or nothing else is taken into the stomach. I believe that it is capable of developing force and energy, and is valuable where exhaustion and disintegration of tissue are prominent symptoms. There can be no doubt that persons in good health, and not suffering from any derangement of the digestive functions, can do without it, in fact, they do not require it at all; but to those who are weak and suffer from impaired

digestion, I have seen it prove a most potent aid to digestion, imparting a power of assimilating food, which no other agent possesses.

Let the reader, however, perfectly understand that I am no advocate for the *general* use of alcohol, and the practice of continual sipping; this is the *abuse* and not the *use* of alcohol; as the increase of intemperance, especially among women of the wealthier class, testifies.

It will be seen that I have omitted tea as an article of diet for consumptive patients; my reason for so doing is, that it increases the action of the skin, and such increase, in the majority of cases, is hurtful.

(To be continued.)

**CREMATION.**—Within the last few days the question of cremation in connection with the disposal of dead bodies has once more been brought prominently into notice, through publication of the fact that the process had been carried out in two instances in this country. The circumstances are of interest, both as showing the existence of a feeling favourable to this method of avoiding the dangers of grave-yard burial, and as indicating the difficulties under which cremation has at present to be performed. The scene of the operations referred to was a private park in Dorsetshire, and the bodies those of two ladies who, dying in 1876, had each expressed a wish that she might be cremated rather than buried. We are informed that the arrangements were conducted in the simplest and most inexpensive manner consistent with efficiency, and that absolutely no unpleasantness was created by the burning, even to the senses of persons standing within a couple of feet of the furnace. Combustion was carried out in an apparatus constructed of fire-brick and iron plates, on which latter the bodies were placed, enclosed in elm shells and leaden coffins, these having been provided for their reception at the time of death. The coffins, lead and all, were placed in the furnace on the plates, which allowed the flames to play freely up, but prevented the ashes from falling into the furnace below. Thus the shells had to be consumed before the bodies, compelling the use of greater heat and longer time than usual, so adding another obstacle. The lead soon ran through the furnace into the ash-pits, and the white flames played round the strong elm shell until that fell at white heat over the body, of which about one hour afterwards only the ashes remained. It is quite possible that these cremations may give rise to controversy respecting their legality, and as full details, illustrated by drawings of the furnace, &c., are promised in a few weeks, the question is certain to be re-submitted for discussion. It is quite certain that the sympathies of all sanitary authorities will be

enlisted in defence of the practice as much as they have ever been; but it is none the less desirable that, whatever may eventually occur as a consequence of renewed consideration of this important subject, there should be displayed as much temperateness and good feeling as hitherto. There are undoubtedly large numbers of persons who cannot view dispassionately any proposal to depart from long accustomed usage in dealing with the dead; they are animated, moreover, by sentiments which urgently demand the respect of those who are as strongly influenced as themselves, but in an opposite direction; and we cannot help a certain assurance that hope of a future adjustment of the law to sanitary requirements can only be entertained so long as the claimants for reform are content to adopt moderate and legitimate methods in seeking to attain their aim. Unmistakable prejudices do exist, and cannot be removed, either by ridicule or by an appeal to force; and from one, and that not the least important point of view, such prejudices are fully as deserving of attention and consideration as the purely scientific inspirations of cremationists. We venture on these observations now, lest it should occur to anyone to suggest that a time has come to enforce adoption of cremation in this country. However numerous may be the ranks of those who might be inclined to make this demand, they are still but a small minority of the population; but it may very justly be asserted, notwithstanding, that they form, both numerically and from the positions held by them individually, a body whose opinions should be carefully weighed in any determinate dealing with the question they are so much interested in. The principal object sought to be gained by the large association of medical and scientific men who, some two years ago, addressed a memorial to the Home Secretary praying for the legalisation of cremation, is such as, if fully understood by opponents of this process, would at least secure their passive acquiescence. Not one person of all who signed the document would wish for, or seek to enforce, compulsory adoption of cremation; their sole wish is that legislative sanction shall be given to its performance whenever it has been desired by or on behalf of the dead; and experience has amply demonstrated that a high appreciation of its advantages is growing in the minds of the people. At the present time, if not actually illegal in this country, cremation needs only to be exalted into a burning question to so excite public feeling against it that the passage of a law rendering it a penal act to carry it out in any case on a British subject, might be easily hurried through Parliament. We do not complain of this, because we are assured it is a natural consequence to be expected from the existing ignorance of sanitary dangers arising out of our national system of burial. But it is as surely



to be expected that by and by the full advantage of the great hygienic reform offered by cremation will be universally understood, and it would be indeed a matter for sincere regret if gradual growth of popular opinion in this direction were to be arrested by such outbursts of fanatical opposition as would be excited by premature attempts at enforcing it. Deep-rooted ideas that are often the earliest implanted and the fastest fixed in the human mind, ideas round which are twined most cherished sentiments and most immovable prejudices, must never be ruthlessly attacked; but if success is to attend the efforts made to combat their influence, they must be slowly and gradually proved to hinder the perfection of growth possible alike to societies and to individuals. But with equal justice it may be claimed that those who hold ideas equally fixed regarding the irrational and undesirable nature of grave-yard interments, and who are anxious for the assurance that they may themselves be otherwise dealt with when dead, shall be allowed to exercise free will in this connection, and direct the cremation of their bodies without thereby bequeathing a legacy of difficulty to their executors. Such persons are animated by as sincere and as intense an abhorrence of slow decay with poison-spreading vapours arising from their bodies, as is experienced by the advocate for this unhealthy mode of interment; but the sentiment is not the same in both cases. With this difference, however, we have not to deal; but rather only with the question of abstract right involved, and which asserts that the freedom claimed and defended with such vigour on his own behalf by the observer of historic ceremonials should not be withheld from the cremationist, who asks only permission to exercise the right of selection in the matter of his own post-mortem destination.—*Med. Press Circ.*

**DR. CARPENTER ON DRESS.**—Dr. Alfred Carpenter's paper on the *Sanitary Aspect of Dress*, read at the Sanitary Congress at Newcastle, was full of interest to the general public. He showed, among other things, that the reformer of dress strengthens his ground as he gets nearer to it. Commencing with the head, he assailed the "top hat," called also "chimney-pot hat" and "stove-pipe hat," which is in such request amongst advanced school-boys and members of the Stock Exchange. Dr. Carpenter's chief objection to these absurd articles of dress is, that they are the insignia of tyrannical custom, and are in the way of more suitable hats. The other end of the body seemed to irritate him most of all, and here he levels his strongest and soundest attack. No sane person will think of defending those iniquitous high heels and narrow-pointed shoes, for experience has shown them to be false in construction and injurious to health. Boots and shoes should be made the exact shape of the

foot, and should be roomy and strong, otherwise the foot cannot properly perform its functions. In walking, the foot ought to be allowed to flatten and expand, and the toes ought to have free play also; but in modern shoes this is almost impossible. The joint of the great toe becomes enlarged, and the smaller ones are crowded together and doubled over each other, giving pain in walking, and ultimately producing most distressing corns and other inconveniences. Dr. Carpenter declared that children are barbarously dressed, and he is undoubtedly correct in this, as any sane person must see at a glance. It remains to be seen whether Dr. Carpenter's advice will be taken by the wasp-waisted damsels, who vainly imagine that such a deformity is pleasing to the other sex, or whether they will persevere in their outrageous obstinacy, and continue converting the beautiful symmetry of God's greatest work—woman—into a hideous deformity.

**SIR RUTHERFORD ALCOCK ON INFECTION.**—The Social Science Association has just closed its annual meeting at Nottingham, which has been most successful, and at which Sir Rutherford Allcock read a most interesting paper on the means of preventing the spread of infectious disease. He had the great advantage of speaking in one of the best sanitated and healthiest towns in England; which, indeed, considering its situation, ought to be so. The Nottingham Corporation have now a special health provision inserted in one of their local Acts, by which every householder is required to notify to the Medical Officer of Health any case of infectious disease occurring under his roof. Its operation, in spite of some small opposition, has been most salutary in its effects, and it is the opinion of those most competent to judge, that we shall never be safe till such notification of disease is universal. When we think of the danger of infectious diseases being spread from the bakery, the dairy, the laundry, and the grocery, it should make us anxious to do all we can to obviate the chances of such dangers, instead of trying to hamper those who are doing their best for us; and, therefore, we feel inclined to "sit upon" the foolish person who, in the Nottingham discussion, declared he would resist with all his might the power proposed to be given to the authorities to remove cases of infectious diseases occurring in unfavourable situations, and likely to propagate infection. We can only hope that by this time he has grown wiser. We quite agree with Dr. Ransom, that in case of the removal of a patient from the house of a laundress, or a baker, the injury to the business thus effected ought to be counter-balanced by adequate compensation; but in any case the power should always be given to the authorities to effect such removal when they consider it necessary to ensure the safety of the neighbours. Many people will probably still contend

that it is an Englishman's right to be at liberty to give other people scarlet fever, small-pox, and other horrible diseases; but this feeling should be suppressed at once as contrary to all sense of equity. We must, by some means or another, isolate infectious diseases, if we wish to be free from the risk of infection; and, therefore, the best we can do is to allow those who have taken the trouble to stir in the matter for us, to act according to their judgment without being harassed and hampered. While their attention is being directed to this important point, we hope the authorities may devise some scheme by which our Board Schools shall be rendered less likely to propagate infection. We are assured, on high authority, that, under existing arrangements, our Board Schools are the most prolific of all sources of infection, and that, until we have regular salaried medical inspectors to supervise the admission of children to the classes, the evil will remain unremedied. It is to be hoped that the various School Boards in the country will take this matter into their early and serious consideration.

**VACCINATION OR SANITATION.**—The following letter appeared in a recent number of the *Daily News*, from the pen of Mr. William Tebb, of the Devonshire Club, St. James's:—"Professor de Chaumont directed the attention of the Newcastle Sanitary Congress a few days ago, as reported in the daily journals, to the immunity of the German army from small-pox, where vaccination is *de rigueur*, as compared with the French army, where he says vaccination is less rigorously carried out, and in which small-pox prevailed, deducing therefrom an argument in favour of compulsory vaccination. May I venture to say that Professor de Chaumont is seriously in error as to his facts? for although Dr. Lionville's Bill for compulsory vaccination and re-vaccination has been withdrawn, owing to the strong opposition to it by Dr. Jules Guérin, Dr. Depaul, Dr. Hardy, the Baron Larrey, and other eminent members of the Académie de Médecine, vaccination in the French army is now, and always has been, rigorously enforced. All French recruits are vaccinated by the military surgeon on joining the army, and soldiers are re-vaccinated in times of small-pox epidemics. The following quotation from the report of Dr. Oidtman, staff surgeon and chief physician to the hospitals at Verdun and St. Quentin during the Franco-German war, shows the origin and development of the devastating epidemic to have been uniform with all similar outbreaks in this country (as demonstrated by Dr. Southwood Smith, Mr. H. D. Dudgeon, Mr. Edwin Chadwick, and others), viz. overcrowding, dirt, and pestilential atmosphere, and not want of vaccination:—"In my numerous marches and halts in the campaign of 1870-71, I directed my particular attention to the health statistics. After the taking of Verdun, I noticed

that the rooms in which the French hospital patients were miserably decimated during the bombardment were inexpressibly close and ill-smelling—breeding places of small-pox poison. The only German physician of the garrison being unwell, it fell to my lot to root out these filthy lurking holes of pestilence. I was physician of the garrison staff at St. Quentin, and all the statistics of the French, German, and international hospitals for six weeks in succession passed through my hands. The enormous difference between the small-pox mortality of the two armies was caused by the crying neglect of hygienic precautions in the French military department, and by the excessive concentration of their system of stationary sick depôts, as opposed to the freshness of the hygienic arrangements of the German hospitals, and the ambulatory movements of their scattered troops. No more decisive proof can exist of the correctness of my theory—that the strength and spread of small-pox is both proportioned to and progressive with the fostering and shutting in of the small-pox vapour—than these statistics of the Franco-German war.' Dr. Oidtman adds that shortly before the outbreak of the war the whole of the French army were re-vaccinated. This general vaccination appeared rather to extend the disease than to protect from it."

**THOUGHT-READING.**—We extract the following letter of "A Lover of Truth" from the *Daily News*:—"In your article this morning on the report of the Society for Psychical Research you appear to discredit the truthfulness or reality of thought-reading. I do not know any of the gentlemen forming this Society, nor have I ever communicated with them, but from one of my own children I have frequently received the most convincing proof of the reality of this phenomenon. One instance I will give you which occurred about five years ago. He was then about four years old, and was one day clamouring rather noisily for his tea, and I scolded him, telling him I should get the cane if he was so impatient. At the same time there was an undercurrent of thought running through my mind, and I was wishing I had bought a pretty oleograph I had seen in the course of the day, as it would have helped to make the room more cheerful for the children. I had scarcely finished scolding when the child fixed his eyes upon me, and said, 'I don't want it.' I thought he referred to the punishment I had threatened, and said, 'But I shall have to get the cane if you are not more quiet,' when he instantly replied, 'I mean the picture; the wall don't want it.' Although he had frequently left his play, and asked me questions upon the very subject I was thinking of at that moment, this positive proof of his ability to read my thoughts simply amazed me. I have never before communicated this fact publicly, but thought it might interest your readers, and con-

vince you that thought-reading is not all fraud or collusion. I enclose my card, but beg you not to let my name and address appear, or I may be overwhelmed with letters, and I am by no means wishful to make an exhibition of the child."

**SMOKELESS COAL.**—We have pleasure in calling the attention of the public to Wayne's Merthyr Celebrated Smokeless Coal, which is eminently adapted for household purposes, being both cleanly and economical. It has great heat-giving power, and, because of its freedom from smoke, all dangers and inconvenience arising from sooty chimneys are avoided. This coal has, in fact, such a high reputation, and is such a boon to householders that we advise those who have not already tried it, to do so. We may add that the Company, whose depôt is at Bartholomew House, Bank, E.C., has been awarded a gold medal, a silver medal, and diplomas of merit at various exhibitions.

**LACTOPEPTINE** is a most useful preparation in cases of indigestion, representing in composition, as it does, precisely the natural digestive juices of the stomach, pancreas, and salivary glands, and, therefore, readily dissolving all foods necessary to the recuperation of the human organism. In debility of the digestive organs we can strongly recommend this preparation. We need only look at the formula of Lactopeptine to be at once convinced that nothing but good results can follow its use. It is composed of ptyalin, pepsin, pancreatin, hydrochloric acid, and lactic acid, and is therefore a combination of all the digestive agents. It is obvious, then, that if there is a deficiency in the system of any of the aforementioned agents, Lactopeptine will supply it. The preparation is prepared only by Mr. John M. Richards, of Great Russell Street, W.

**COURT ST. ETIENNE WATERS.**—Mr. E. Watteu, of Middlesbrough, is introducing into this country two very well-known natural mineral waters, which, on account of their great value, deserve to be brought before the notice of the public. One is the Court St. Etienne, an arsenical water from Brabant, which is of the highest value in skin affections, scrofula, and nervous ailments; and the other is the thermal sulphurous water from the Emperor Charlemagne's well at Aix-la-Chapelle, containing, besides the sulphurous compounds, a quantity of bicarbonate of soda and chloride of sodium, and which is so well known as a remedy in rheumatism, gout, atonic dyspepsia, and bilious congestions. Mr. Watteu's London office is at 30, Bush Lane, Cannon Street.

**VEGETARIANISM.**—The promoters of abstinence from the use of flesh as food and an exclusive diet of vegetables are again claiming attention for their system. We have nothing new to urge against the arguments of this school of social reformers. It is still the fact that whereas men may—in the sense

of *can*—live on vegetables, it is not physiologically expedient that they should do so. The wear and tear of civilised life, with a great and continuous strain on the nervous system, require a nitrogenised diet. We have more than once urged the wisdom of using fish more extensively and commonly than it is now used. The flesh derived from the carcass of warm-blooded animals is not, perhaps, the best or safest form of staple food; and it must always—even under equitable commercial regulations, which are not, unfortunately, at present in force—be the dearest. At the same time we cannot recommend a recourse to vegetables. They are relatively more "heating" and less strength-giving than animal food. It is noticeable that those of the known animals which feed exclusively on vegetable food, whilst exhibiting great muscular strength, do not, as a rule, play any very prominent part in the kingdom to which they belong. They do not assert supremacy over other orders of the animal creation. The all-subduing, self-assertive, and conquering forms of life are sustained by a mixed diet, if not one exclusively animal. There are two aspects of this fact worthy of consideration. The flesh-eating animals are necessarily predatory, and they exercise their brains and nervous systems generally in a manner and degree both far in advance of the habits of life of the vegetable-feeding creatures around. These latter are comparatively subordinate, and on the whole inferior in point of mental force and character. This should suggest to the vegetarian that, inasmuch as man is the head of creation and intended to subdue and reign over all the forms of animal life and organism below the level of his own, he must needs be intended—in the sense of his being fitted by development—to feed on a diet consisting, at least in part, of flesh.—*Lancet*.

**CRINOLETTES.**—We venture to refer to the new vagary of fashion styled "the crinolette," less because of any actual medical interest that it possesses than because of the medical interest of certain changes in dress which it apparently portends. The crinolette cannot with propriety be called the thin edge of the wedge of crinoline, but it may, perhaps, be correctly described as the first elevation on the ascent of that mountain of absurdity which was such a nuisance twelve or fifteen years ago. The crinolette is simply a ludicrous excrescence which gives an English woman the outline of a Hottentot, and must be highly inconvenient, being something in the nature of a birdcage stuffed under the dress and fixed in the region of the archaic bustle, but it does not in any way interfere with functional activity nor endanger health. With crinoline, however, the case is far different. That was not only a social vexation of the first magnitude, tending to the dissemination of nervous irritation by universal ruffling of temper and creation of embarrassment, but it was a cause of

disease and a danger to life. By exposing the lower half of the body to currents of cold air and chilling it helped to set up various disorders, and to induce general debility, and by spreading out the inflammable materials of clothing in such a way that they were beyond control and almost beyond cognisance, it kept up a constant risk of conflagration whenever an open fireplace was approached. Many lives were sacrificed owing to crinoline-inflated skirts catching fire. It behoves all sensible women firmly to set their faces against any attempt at the reintroduction of this pernicious fashion. Our modern culture is not good for much if it is not strong enough to put its foot down (to speak metaphorically, and in mixed metaphor too) and to burst once for all this big silly bubble of crinolette. Let the crinolette change its name and be popularly spoken of as the "Hottentot," and we predict that it will speedily cease to offend the eyes of those who, without any Grosvenor Gallery proclivities to the love of leanness, still admire the human form divine when unmillinered, and detest unsightly protuberances.—*Med. Press Circ.*

### REVIEWS.

*Harrogate and its Waters*, by George Oliver, M.D. Lond. (H. K. Lewis).—This little book is a description of the remarkable and unrivalled array of medicinal springs with which Harrogate is endowed, containing, also, copious notes on the climate; and must take its place at the head of the many guides to Harrogate, medical and non-medical. It is exceedingly well written, and exhibits the peculiar advantages of Harrogate as a health-resort, in a remarkably clear manner, giving all the necessary information respecting the rain-fall, soil, and other local conditions. We can confidently recommend this book to the public.

*La Bourboule*, by G. H. Brandt, M.D. (H. K. Lewis).—Dr. Brandt is a well-known spa physician, being consulting physician at Royat-les-bains; and, therefore, anything he has to say about mineral waters will receive careful attention at the hands of the public. His little book gives a description of the arsenical waters of that well-known Auvergne spa, La Bourboule, and also an account of the bathing establishment, climate, accommodation, and amusements. Anyone intending to visit this spa, ought certainly to read this book, which contains all that one could possibly wish to know about the place.

*Practical Biopathy*, by Edward Haughton, B.A., M.D. (Wade & Co.).—Dr. Haughton has produced a treatise on the laws of life and the art of healing, with an account of the principal thermal remedies, that will interest a large number of the people of

this country in these days of water-cures and wet packing. The treatise is well written, and appears to be thoroughly exhaustive. That great benefit is to be derived from the application of water to the human body in various manners, no one can deny; and if anyone wants to know *all about it*, let him read Dr. Haughton's book.

*Disinfectants, and How to Use Them*, by Edward T. Wilson, M.B. (H. K. Lewis).—These handy little leaflets contain, as in a nutshell, good advice concerning the disinfection of houses, sick rooms, and clothing, and no householder should be without one. We advise all who have not yet procured one, to do so at once, and act according to its instructions. Much misery may thus be saved.

### CORRESPONDENCE.

To the Editor of THE FAMILY DOCTOR.

SIR,—Allow me to state, in reference to your article in last month's issue, entitled "Typhoid, or Pure Water?" that the blot on the character of Chagford has been duly wiped off, and that for the future the place will be as safe and as healthy as ever it was. It undoubtedly deserves its high reputation as a health-giving place, and the authorities are now quite alive to the fact that people will have good sanitation at the resorts they visit for their health, and they intend to see that Chagford is kept well sanitized.

Yours truly,

A RESIDENT OF CHAGFORD.

*Whiskey*.—We do not think there is much harm in taking a little whiskey occasionally in the manner you describe, but we emphatically declare that you would be far better without it. People in good health do not require alcoholic stimulants, and are much better without any. About this there cannot be two opinions.

*Bosh*.—We agree with you that a great deal of what appears genuine is not so, but cannot take up the matter in our columns, as it would not sufficiently interest our readers.

*Vaccination* is thanked for leaflet.

*R. P.*—The objections to cremation are of a purely sentimental and religious character, but then these two factors have through all time interfered with progress and man's happiness and welfare.

*Blue Ribbon*.—We do not approve of taking the pledge, and, therefore, cannot accede to your request.

*Erratum*.—In Dr. Hardwicke's article in our last number, page 110, second column, line 11, "zero F." should read "freezing point."

The following books, &c. have been received:—*First Aid to the Injured*, by Dr. Eschmarck, translated from the German by H.R.H. Princess Christian (Smith, Elder & Co.); *The Voice*.

All letters and other communications for the Editor should be addressed to him at the Publishing Office, and will be considered as private communications *per himself*. If for publication, they should be written legibly, and on one side of the sheet only.

Communications relating to subscriptions and advertisements should be addressed to the Publishers.

No notice will be taken of communications unless authenticated by the name and address of the author, which need not necessarily be published.

## NOTICE.

The Journal will be supplied post free, each month, for one year, on receipt of P.O.O. for 3s. 6d., made payable to the Publishers, Messrs. W. H. Allen & Co., 13, Waterloo Place, London, S.W., at the Charles Street, Haymarket, Post Office.

## SCALE OF CHARGES FOR ADVERTISEMENTS.

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## THE FAMILY DOCTOR.

## A MERRY CHRISTMAS AND A HAPPY NEW YEAR.

IN wishing our readers a Merry Christmas and a Happy New Year, we beg to call their attention to the fact that with this number our second volume is completed, which, with the five numbers of the first volume, will be bound and published in book-form, price 5s.; and we venture to hope that our efforts to provide suitable and instructive reading have been appreciated. During the seventeen months of the existence of the journal able articles have appeared from the pens of well-known writers in the medical and scientific world, useful and instructive reprints and extracts have been taken from our contemporaries, and a considerable amount of space has been set apart for correspondence and replies to queries. During the next twelve months we hope to be able to place before our readers articles and information equally as valuable and instructive as last year's, having been already promised contributions by many of the physicians and surgeons of the London and Provincial hospitals. We trust that the public will meet us in our endeavours to make the journal a useful and successful organ, by subscribing regularly themselves and by recommending it to their friends; and we assure them that it will be always our aim to keep it up to the mark and apace with the times.

## GERMAN HEALTH RESORTS AND SPAS.

## ARTICLE VI.

By HERBERT JUNIUS HARDWICKE, M.D., F.R.C.S., M.R.C.P., &c., Hon. Physician to Sheffield and South Yorkshire Ear and Throat Hospital, and to Sheffield Public Hospital for Skin Diseases.

(Continued from page 124.)

GLEICHENBERG is an alkaline muriated acidulous spa, situated about seven miles from Grätz, in Styria, 872 feet above sea-level, and has a very mild

climate. The principal springs are the "Constantius," the "Emma," and the "Klausner," all having an abundant supply of carbonic acid, and a temperature of about 63·5° F.

GOZALKOURTZ is situated 800 feet above sea-level, in Silesia, and possesses salt-springs of great renown in the neighbourhood.

GODESBERG is a small chalybeate spa near Bonn, on the Rhine, where there is an excellent hydro-pathic establishment. The country round about is charming.

GRIESBACH is a small chalybeate spa in the Black Forest, 1,614 feet high, possessing waters with a temperature of 50° F.

HALL, in Austria, lies 1,064 feet above the level of the sea, about eight miles from Steyer, a small station on the branch line from Linz to Rottenmann, amongst the mountains, and possesses strong salt waters, with a quantity of iodine and bromine which have a great reputation for curing goitre, having been called "Kropfwasser" for many years. The quantity of common salt contained in 16 ounces of the water is 98·46 grains, whilst in the same amount there are only 7 cubic inches of carbonic acid. The consequence is that vomiting and dyspepsia are often induced by a too free use of the waters.

HALL, in the Tyrol, is situated 1,700 feet above sea-level, in the valley of the Inn, not far from Innsbrück, and amidst magnificent mountain scenery. It possesses a bath establishment at Heiligen Kreuz, a village close by, where soot-baths may be obtained *ad libitum*.

HARTZBURG (Julinshall) is a salt-water spa on the Hartz Brunswick Railway, 706 feet above sea-level, with a fresh and agreeable climate, a whey-establishment, soot-baths, pine-baths, and good accommodation.

HECHINGEN, in Würtemberg, is a mild sulphur-spring, only used by the natives of the place.

HEILBRUNN, a village in the Bavarian Alps, 2,400 feet high, contains a thermal salt spring with a small quantity of iodine and bromine, known as the "Adelheidsquelle," useful in scrofula. The waters are exported.

HEILBRUNNEN is a small alkaline spa in the valley of the Brohl, on the Rhine, whose waters contain an unusual amount of magnesia, but are only exported.

HEPPINGEN is a small alkaline spa, situated in the valley of the Ahr, on the Rhine.

HOMBURG is a celebrated cold muriated saline spa, situated on the southern declivity of the Taunus, 600 feet above sea-level, and about half an hour's drive by rail from Frankfurt-am-Main. The principal springs are the "Elisabethenbrunnen" and the "Kaiserbrunnen," which contain more chlorine compounds, carbonic acid, and iron, than the Kissin-

gen waters. There are also the "Luisenbrunnen" and the "Ludwigsbrunnen," containing less chlorides than the stronger springs, and useful in cases of anæmia and cachexia. The "Stahlbrunnen" has a large quantity of iron. The "Elisabethenbrunnen" contains in sixteen ounces 79·154 grains of common salt, 7·756 of chloride of calcium, 7·767 of chloride of magnesium, 0·880 of sulphate of soda, 10·982 of bicarbonate of lime, 0·460 of bicarbonate of protoxide of iron, 2·011 of carbonate of magnesia, and 0·315 of silica. The principal complaints benefited by a sojourn here are dyspepsia, gastralgia, constipation, liver congestion, anæmia, and cachexia. Baths of all kinds may be had, and also inhalations of carbonic acid. There are excellent hotels in the place; and the bath-establishments, ball-rooms, reading-rooms, &c., are magnificently appointed.

HUBERTUSBAD, in the Hartz mountains, 800 feet above sea-level, is a saline muriated spa, with sool-baths and an agreeable climate.

INSELBAD, near Paderborn, is an earthy spring containing in sixteen ounces 5·901 grains of chloride of sodium, 0·409 grains of sulphate of magnesia, 2,177 of carbonate of lime, 0·028 of carbonate of protoxide of iron, 0·12 cubic inches of carbonic acid, 2·78 of nitrogen gas, and 0·38 of oxygen gas, and said to be beneficial in cases of spitting of blood. The treatment consists in inhaling the nitrogen gas, taking tepid baths, and drinking the waters.

ISCHL, near Salzburg, in the valley of the Traun, 1,500 feet high, possesses a mild and equable climate, suitable for people with susceptible lungs. There is a fine hydropathic institution hard by, also a good whey-cure establishment, mud-baths, sool-vapour-baths, sool-baths, strong salt-baths, and pine-baths. The waters used for drinking are principally imported from other springs, and it is said that all the European mineral waters may be procured at Ischl. It is a favourite resort of monarchs.

IWONICZ, in Galicia, possesses a spring containing about 50 grains of chlorine combinations, and two others containing waters very similar to those of Kissingen.

JOHANNISBAD, in Bohemia, lies at an elevation of 2,000 feet, and possesses an indifferent thermal spring of 85° F. useful in skin-diseases.

JOHANNISBERG, a lovely little town on the Rhine, below Mainz, possesses a good hydropathic establishment, pine-baths, vapour-baths, grape-cure, &c."

KAINZENBAD lies at an elevation of 2,400 feet, in upper Bavaria, not far from Partenkirchen, and possesses an excellent climate, a strong sulphur spring, the "Gutiquelle," and an alkaline spring, the "Kainzenquelle," containing in sixteen ounces 8·7 grains of bicarbonate of soda and 1·2 of barégine. The "Gutiquelle" contains 0·835 grains of sulphate of potash, 0·420 of sulphate of soda, 0·189 of chlo-

ride of sodium, 8·967 of bicarbonate of soda, 0·092 of silica, and 0·187 (8·9 cubic inches) of sulphuretted hydrogen. There is also an iron spring.

KARLSBAD, in Bohemia, is situated in a narrow valley, 1,200 feet above sea-level, is one of the most celebrated and most frequented thermal spas in Europe, and has a rough and variable climate. The waters are alkaline salines, though many term them indifferent thermals, owing to the small quantity of chlorine contained, and are said to be of great value in a large number of ailments, as, for instance, in gastralgia, catarrh of the stomach, gall-stones, and biliary congestion, liver enlargement, catarrh of bladder, gout, diabetes, and many other diseases. The principal spring is the "Sprudel," which has a temperature of 165°, and flows from amongst the high rugged rocks. The "Muhlbrunnen," with a temperature of 126°, is best borne by the stomach. The "Schlossbrunnen" is the third in repute. There are five other inferior sources, but they differ very little from the three others in their chemical composition. In fact there is so little difference in the fixed component parts of all the sources, that a description of the "Sprudel" will suffice, which is as follows:—In each sixteen ounces there are 18·21 grains of sulphate of soda, 1·26 of sulphate of potash, 7·91 of chloride of sodium, 10·45 of carbonate of soda, 2·28 of carbonate of lime, 0·95 of carbonate of magnesia, and 0·02 of carbonate of protoxide of iron, with 11·8 cubic inches of carbonic acid. The dose varies from two to ten glasses several times daily, and almost always produces diarrhoea, as is evidenced by the number of places of convenience (*cabinets*) to be found scattered about in the neighbourhood. There are peat-baths in the town which are in great request.

KISSINGEN is situated in the beautiful valley of the Saale, in North Bavaria, 590 feet above sea-level, and is the principal representative of the cold muriated saline springs. The climate is mild and equable, and the arrangements excellent, including a handsome *Kursaal*. The principal springs are the well-know "Ragoczi," the "Pandur," the "Maxbrunnen," and the "Soolsprudel." The "Ragoczi" contains, in sixteen ounces, 44·71 grains of chloride of sodium, 2·20 of chloride of potassium, 0·15 of chloride of lithium, 2·88 of chloride of magnesium, 4·50 of sulphate of magnesia, 2·99 of sulphate of lime, 8·14 of carbonate of lime, and 0·24 of carbonate of protoxide of iron, with 41 cubic inches of carbonic acid, and a temperature of 51° F. The "Pandur" is almost exactly the same, but possesses rather more carbonic acid. The "Maxbrunnen" is weaker than the other two in common salt and lime, but otherwise similar. The "Soolsprudel" is by far the strongest in common salt and carbonic acid, and is used only for baths. Sool-baths, jet-baths, and wave-baths are in frequent use, and, it

may be added, frequent abuse also; owing to the enormous quantity of carbonic acid contained in this water (80½ cubic inches to the pound) a poisonous effect is often produced unless the temperature of the bath be kept tolerably low (about 77° F.), and thus it is not uncommon to find people taking them at the natural temperature of 68°. The first symptoms produced by using the water at a higher temperature are giddiness and dyspnoea, followed quickly by other more alarming symptoms. There is a strong bitter water also at Kissingen, somewhat similar to the Friedrichshall water, prepared from the sool and largely used for drinking. The principal diseases benefited are dyspepsia, liver congestions, gout, rheumatism, anæmia, hysteria, and melancholia.

KÖNIGSWARTH is a small chalybeate spa, situated between Franzensbad and Marienbad, on the southern slope of a mountain, open to the south and south-west, and sheltered from the north, north-east, and north-west winds. It is 2,000 feet above the level of the sea, and its climate is highly beneficial in cases of anæmia, chronic chest affections, and incipient phthisis. The waters contain 0.40 grains of bicarbonate of iron and 80 cubic inches of carbonic acid in sixteen ounces.

KÖSEN is a small spa, situated 356 feet high in the valley of the Saale, and is one of the most frequented of the north German sool-baths.

KRANKENHEIL, not far from Tölz and Kreuth, is a small spa whose waters contain a very minute quantity of iodide of sodium.

KREUTH is situated in a sheltered spot on the Alps, not far from the Munich and Salzburg railway, 2,911 feet high, and possesses a remarkably pure and moist atmosphere and two sulphur springs. The stillness of the air renders the place of the greatest value for those suffering from irritability of the respiratory mucous membrane and tendency to bronchitis, but it is not always easy to get beds, owing to the total absence of any house except those connected with the Government *Kurhaus*, which itself has 200 beds only. There is an excellent whey establishment in connection with the *Kurhaus*, and drinking-halls and bathing-rooms supplied by the sulphur springs of the Holy Cross which have a temperature of 51.8° F. There is provided plenty of amusement to while away the time with. In addition to this, sool-baths are provided from the sool of Rosenheim close by.

KREUZNACH is a spa of much celebrity, situated in the Nahe valley, not far from Bingen, on the Rhine, and has a mild climate and iodo-bromated-muriated springs, of great repute in the cure of scrofula. The principal spring is the "Elisenquelle," generally used for drinking, and containing 91 grains of chlorine combinations, three-tenths of a grain of iodine and bromine combinations, and no carbonic

acid. The following is the exact analysis of the water:—72.88 grains of chloride of sodium, 18.39 of chloride of calcium, 4.07 of chloride of magnesium, 0.62 of chloride of potassium, 0.61 of chloride of lithium, 0.27 of bromide of magnesium, 0.03 of iodide of magnesium and 1.69 of carbonate of lime. The "Oranienquelle" is used for baths, and contains 108.70 grains of common salt. The baths are taken an hour after drinking the waters, usually at a temperature of 92°, and lasting for twenty minutes at first, and afterwards lengthened in time to nearly an hour. The *Kurtaal* and the chief springs are in a nicely wooded island on the river, where sool steam baths may be had, and where the grape cure is extensively practised. The principal diseases treated at Kreuznach are scrofulous swellings and incipient phthisis.

KRONTHAL is a small cold muriated-saline spa, not far from Soden on the Taunus, with a mild climate and a small establishment. The temperature of the two springs is 56.8° and 61.1° F. respectively.

LANDECK, in Silesia, lies in a mountainous district, 1,400 feet above the level of the sea, and possesses thermal indifferent waters, termed by some sulphurous, on account of the small quantity of sulphuretted hydrogen they contain. The temperature is about 67° to 86° F., and the water is usually warmed for bathing. Rheumatism is the complaint generally treated here.

LANGENBRÜCKEN lies in a lovely valley in Baden, between Bruchsal and Heidelberg, 440 feet above the level of the sea, and possesses cold sulphurous springs, which are very rich in carbonic acid. It is a very popular bath, but the accommodation at the *Kurhaus* is very limited. Tub-baths, douches, vapour-baths, vapour-douches, and drop-baths are used, and the cases treated are rheumatism and neuralgia.

LAUBBACH, a small and lovely place, not far from Coblenz, has a fine hydropathic establishment and a very invigorating climate.

LIEBENSTEIN is a small and quiet chalybeate spa, situated on the south-west slope of the Thuringian Forest, in Saxe-Meiningen, 1,000 feet above sea-level, and possessing a good hydropathic establishment, a whey-cure establishment, and two good springs, the principal one a pure and strong chalybeate, the other one an accidulated saline spring. Pine-leaf baths and salt-baths are used constantly, and the place is well-patronised by North-Germans.

LIEBENZELL is situated 1,000 feet above the level of the sea, in the Black Forest, about eight miles from Wildbad, and possesses indifferent thermal springs with a small quantity of iron. Anæmia is the complaint treated here.

LIPPSPRINGE is situated five miles from Paderborn, in Westphalia, about 440 feet above sea-level, on a chalk and sand-foundation, and has a great reputa-



tion in cases of phthisis, and an equable though moist climate. There are also very good earthy springs, containing in sixteen ounces 1·888 grains of chloride of sodium, 5·463 of sulphate of soda, 2·875 of sulphate of magnesia, 2·223 of sulphate of lime, 5·2 of carbonate of lime, 0·1 of carbonate of protoxide of iron, 5 cubic inches of carbonic acid, 1·4 of nitrogen gas, and 0·17 of oxygen gas. Two or three glasses of the water are usually taken each morning, and baths and inhalations of nitrogen are employed in cases of phthisis and struma.

LOBENSTEIN, in Reuss, possesses a good chalybeate spring of some repute in the district.

LUHATSCHOWITZ is situated on the North-Austrian railway, a few miles from Hradisch, in a pleasant valley of the Carpathian mountains, about 1,700 feet above the level of the sea, and possesses alkaline muriated acidulous waters about as strong as any in Europe. There are four springs that are generally used for drinking, and these are cold, and contain in sixteen ounces from 33 to 61 grains of bicarbonate of soda, about 4 of carbonate of lime, less than a grain of carbonate of protoxide of iron, of iodide of sodium, and of bromide of sodium; about a grain of chloride of potassium, from 23 to 33 grains of chloride of sodium, and from 14 to 50 cubic inches of carbonic acid. The complaints treated are gout and catarrhs.

MALMEDY, a small German village not far from Spa, has several good chalybeate wells.

MARIENBAD, in Bohemia, is situated 1,912 feet above sea-level, in a lovely well-timbered valley, and is the chief cold alkaline saline spa, its waters containing more carbonic acid than the other wells of this class, and double the quantity of purgative salts and considerably more iron than the Karlsbad waters. The springs most used are the "Kreuzbrunnen" and the "Ferdinandsbrunnen," the former containing in 16 ounces 88·04 grains of sulphate of soda, 0·4 of sulphate of potash, 13·06 of chloride of sodium, 9·02 of carbonate of soda, 3·99 of carbonate of lime, 3·33 of carbonate of magnesia, 0·27 of carbonate of protoxide of iron, and 15 cubic inches of carbonic acid; and the latter being almost the same, but possessing rather more carbonic acid and chloride of sodium. The "Kronprinz-Rudolfsquelle" is another and much weaker source, but having the same temperature as the two former ones (48·2° F). The "Waldquelle" is similar to it. The "Wiesenquelle" is a mild earthy spring, very useful in urinary affections. The "Carolinquelle" and the "Ambrosiusquelle" are acidulated non-purgative chalybeate sources. There are peat-baths of great renown, and ordinary baths; and the arrangements, though limited, are thorough.

MEHADIA, in the Banat, near Orsova, is the celebrated thermal sulphur spa, known to the Romans, and called the baths of Hercules. It is one of the

most popular of the Hungarian spas, lies in a romantic valley of the Carpathians, and has a mild and equable climate. The waters are similar to those at Aachen, and have a temperature of 86° to 131° F. The cases cured are gout, rheumatism, and scrofula.

MEINBERG, in Lippe-Detmold, is a weak sulphur-bath, where sulphur mud-baths are used. There are also a chalybeate spring, rich in carbonic acid, a salt-spring, and a carbonic acid and pneumatic apparatus.

MERAN, in the Tyrol, lies in splendid scenery, 900 feet high, is protected from all but the south winds, and has a dry atmosphere with little rain. There are whey cures, goat's milk cures, herb cures, grape cures, and baths of various descriptions.

MERGENTHEIN, in Würtemberg, is situated 590 feet above sea-level, in the valley of the Tauber, and has a good bitter-water spring, containing in sixteen ounces 51·26 grains of chloride of sodium, 21·89 of sulphate of soda, 15·88 of sulphate of magnesia, 9·86 of sulphate of lime, 5·45 of carbonate of lime, 1·40 of carbonate of magnesia, 0·05 of carbonate of protoxide of iron, and 13 cubic inches of carbonic acid, and having a temperature of 51·8° F.

MÜNSTER-AM-STEIN is an iodo-bromated brine, near to Kreuznach, having a higher temperature than the Rehme and Nauheim waters. In sixteen ounces there are 60,998 grains of common salt and 11,083 of chloride of calcium.

NASSAU, near Ems, on the river Lahn, has a fine hydropathic institution and a good climate.

(To be continued.)

## CONSUMPTION: ITS CAUSES, SYMPTOMS, AND SUCCESSFUL TREATMENT.

By EDWIN W. ALABONE, M.D., M.R.C.S. Eng.;  
Highbury Quadrant, London, N.

(Continued from page 128.)

*Cleanliness.*—One of the most important functions in the animal economy is that of the skin, and this is not to be wondered at, when we consider that it invests every portion of the body; and if attention to personal cleanliness were strictly followed out, a most formidable banner would be raised against the approach of numerous diseases, consumption amongst their number.

It seems very strange that persons who have charge of animals, and know full well how vital it is that their skins should be kept in good order, do not apply their knowledge to themselves. A groom who spends some time daily in cleansing his horses' skins, because he knows that if he neglects to do so they will speedily get out of condition, and yet he will keep his own skin anything but clean; in fact,

many persons who would shudder at wearing a dirty shirt, feel no compunctions at having a dirty skin.

When we consider that the non-elimination of effete tissue is a conspicuous element in the causation of tubercular deposit; the injunction of great cleanliness seems almost superfluous. Yet it is a lamentable fact that few persons, especially those of phthisical tendency, attend to this point.

At first sight, it would seem, that to supply cold water to a skin which is perspiring, and which is very sensitive to cold, must be followed with bad results; but such changes, within certain limits, may be effected with impunity. The great aim in view is not to lessen the temperature, but to remove the relaxed state of the skin, which is always induced by perspiration, and to restore it to its normal tone. Cold water is capable of doing this, for we all know its power in contracting tissues; the chief care must to apply it in such a manner that we may effect the object without greatly lowering the temperature of the skin. It is, therefore, best to use water that is about the same temperature as the room, say from 50° to 60°, according to the time of year, and either to plunge into the water at once, so as to cover the whole body, or to apply a small quantity, *as quickly as possible*, over the whole surface of the skin. If the former method be adopted, it should be rapidly performed, and friction immediately applied; it is best done either in open water or in swimming baths. If sponging is preferred it should be done night and morning, and care taken that whilst sponging the upper parts of the body the water does not trickle over the lower part. To avoid this the sponge or towel, after it has been dipped in water, should be pressed so as to leave little in it, and should be applied quickly to a part of the body. The whole operation need occupy no more than ten minutes; there is little shock in doing it, as, after the towel or sponge has touched the skin, it gradually becomes less cold; it must be dipped several times in the water.

Some persons bathe only the chest and leave the greater part of the body untouched; such a proceeding is useless, and, where phthisis is developing, actually dangerous, for the action we desire can only be obtained by bathing the whole surface of the body, and if only a part is done, there is a very much greater liability to take cold.

Many patients argue that cold water is very liable to give cold; this is pure prejudice. Undoubtedly, if only a part is bathed, and the other part allowed to remain naked for some time, there is this risk; but when the whole body is quickly done, as by a bath, a shower bath, or *quick* sponging, there is not the least danger of this, for in proportion as the skin has been lowered in temperature, so will it recover

itself, and a glow of warmth be felt over the whole body.

Some hydropaths precede the use of cold water by a warm bath, but to consumptive patients this is a most dangerous proceeding; the use of the warm water cannot produce the contractile action we desire, and to an already sensitive skin it but increases the activity we wish to lessen.

We all know that the use of salt water is attended with much less risk of cold. It is also possesses a stimulating action which is admirably adapted to diminish the sensibility of the skin. Where sea water cannot be obtained, a solution of rock-salt or Tidman's sea-salt may be used as a substitute. To those who will *insist* that the cold water is too harsh for them, the daily ablutions may be commenced with tepid water, and the temperature gradually lessened until cold water with its beautiful reaction is found agreeable.

A shower-bath may be used by all persons who have weak chests, but a word of caution is needed; do not take it at first quite cold, commence with about half a gallon of tepid water in the foot pan, and, by degrees, let the water be colder, but always have warm water to stand in.

If vigorous friction, on coming out of the bath, fail to produce reaction, a small quantity of wine may be taken to induce it, and the temperature of the water raised a little; but let the consumptive patient remember that there is nothing more prejudicial to his comfort and health than the omission of cleanliness. There can be no beauty without health, and no health without cleanliness.

In the proper season sea-bathing may be pursued every other day, and limited to five minutes; but even this should only be done under advice.

*Exercise* is of all means the most beneficial, for without that even fresh air itself will do little good. If persons confine themselves to their rooms, no matter how well ventilated and aired they may be, the mind becomes fretful, the respiration is affected, and the digestive functions obstructed.

Exercise may be active or passive, and its primary object is to increase the strength of the patient. We must remember, therefore, that we are dealing with vital power, and must carefully consider the existing state of the vital power of the patient to whom this exercise is recommended.

There is, undoubtedly, amongst phthisical patients a very great indisposition to muscular exertion, or, at any rate, I have noticed there is a very great majority of cases, and to overcome this tendency, our proceedings require to be based on the most judicious principles. We must remember that we are dealing with no ordinary disease, but one in which the vital force is inadequately developed, and yet there is a peculiar morbid excitability which may, if misdirected, exhaust what little power the patient

may have left; and if this be done we retard those processes which renew muscular power.

Violent temporary exertions must of necessity be most injurious to those who are suffering from this disease, as is shown by those whose occupation and life is attended with such exertion. I believe that many a person would have lived for a long time, and eventually recovered, had it not been for this. What we require is moderate, continuous exercise, which expends a portion of the vital force without exhausting it; in fact, the motto for the consumptive in regard to this should be—*Exercise, strengthens; Fatigue, weakens*. Keeping this in view, it will be an unerring guide in regulating the amount of exercise to be taken. To retire to bed at night fatigued is but natural; but if the patient wake in the morning after good rest and still feels fatigued, it is pretty certain that the exercise of the previous day has been excessive, or, that it has not been of a proper kind; and if the same result is noticed day after day, he may be sure that the exercise taken is increasing debility.

Precisely the same kind of injury results to consumptive patients by excessive muscular exertion of short duration. A degree of exhaustion to vital force takes place, which will take a long time to recover from. I have frequently seen this happen from an over walk, excessive riding or rowing; in fact no violent exercise ought to be taken by any consumptive person, and this more especially during any approach to exhaustion from want of food. But besides the increase of vital force, and the object to be gained by exercise, and that is the excitement of the action of the heart, and an increase of the functions of the lungs, the muscles of the chest, and also of the capacity of the chest, the latter is more or less affected by all kinds of general exercise, but the lungs themselves also demand it; this is a fact very frequently overlooked. It is best accomplished by sitting down and taking several deep inspirations *through the nostrils*, and *gradually* expiring.

This should not be prolonged if uneasiness is felt at the chest; which, at the commencement, is very likely to occur, but after a short period, a greater number, and deeper inspirations can be taken, showing the capacity of the lungs is being enlarged; this is a most important matter and should be continually borne in mind, as it can be practised whilst walking, riding, or when at rest; but this exercise is subservient to *general muscular activity*.

Having seen that ill results follow exhaustion, the next thing to determine is what kind of exercise is the best. General exercise out of doors is always to be preferred, and the greatest benefit is derived from *horse-back* exercise, as nearly all the muscles are brought into action together, with less fatigue and consequently less exhaustion; besides

which the patient gets an opportunity of breathing a greater amount of fresh air with less exertion than can be obtained through any other means, and so a stimulus is given to the nutritive functions, which is most necessary; but *excess* must be avoided.

Many, however, are unable, for obvious reasons, to indulge in horse-back exercise, so that walking must be had recourse to as a substitute; and a very good one it is, as the whole effects which are to be derived from horse-exercise can be produced by walking, but in a *minor degree*. The one great difficulty, however, to contend with in phthisical patients is the fatigue with which walking is almost invariably attended.

This fatigue is a symptom which is commonly overlooked, or to which too little importance is attached; it is valuable as a diagnostic sign, and also of great use in guiding the treatment. The amount of exercise a patient should take daily, must be carefully thought of. In fatal cases I have found the fatigue on exertion gradually increase, and the muscular power seems never to regain what is lost. In other cases that are cured by the treatment, the muscular power gradually increases, and fatigue diminishes. I have had many patients, who, when first commencing the treatment, could not walk a quarter of a mile without great shortness of breath and excessive fatigue, but, who, after four or five months, could walk five or six miles without the least feeling of discomfort; but as I have before stated, there must be no complete expenditure of power. We must estimate the effect of exercise not entirely by the fatigue immediately produced, but also by the state of the patient during rest. I have frequently seen patients enjoy a long walk, and apparently suffer no inconvenience from it at the time, but after a rest unfavourable symptoms present themselves. Such a case I have recently had. A young lady, who was progressing favourably, was so pleased at being able to walk a good distance without feeling the shortness of breath and prostration that previously occurred on the least exercise, that she walked regularly five miles every day. Although the state of her lungs improved every week, there was a certain amount of cough and depression of the heart action which was inconsistent with the amount of pulmonary mischief. When she at last confessed to walking this distance, the mystery was explained, and, by regulating the walk to one mile a day, the symptoms speedily subsided and she made a rapid recovery.

Everyone is led to believe that excess of exercise must develop symptoms of fatigue immediately; such, however is not the case. Too long a walk or excess of exercise may be taken without any unpleasant symptom arising at the time; but subsequent prostration, or other unfavourable symptoms,

proves that it has done harm and must for the future be avoided.

In those cases where walking or riding causes too great fatigue, the patient must ride in a carriage. Although this is unworthy the name of exercise, yet it is far preferable to remaining indoors all day long, which many are far too ready to do. Great care is needed to keep the body warm by extra clothing during the drive, and, if taken in a close carriage, draught must be most carefully avoided. When possible, walking exercise should be taken as well, no matter how short a distance is covered at one time. There are many other forms of exercise which deserve notice, and are of much importance; before mentioning them one thing must be strictly enforced, and that is, that every obstacle to the free movements of the chest should be removed, tight garments must not be worn, and stays, particularly in young females, must be peremptorily discarded.

Amongst this class of exercise may be named *club exercise*. This calls into play the whole of the muscles of the arms and body, and partially so those of the lower extremities, and by their judicious use the chest will be enlarged and the muscular system rendered stronger and more fully developed.

The *chest-expander*, which can now be purchased at almost any india-rubber shop, is of great utility in expanding the chest; as is also the use of *dumb bells*, but they must not be too heavy.

*Gymnastic exercises* are of very great value to the patient, if they are judiciously selected; and here also excessive exertion must be avoided, as it causes an abnormal impulse of the heart by its having too great a quantity of blood suddenly forced upon it. In all these exercises the first symptom of pain, or of shortness of breath, shows that the circulation is at fault, and the exercise must be either modified or altogether stopped. It is not at all uncommon to find hæmorrhage the result of *over-exertion* during the performance of gymnastic exercises. But the performance of these exercises, beneficial as they are to a person who is already weak-chested, is of far greater value as a preventive.

A gymnasium should be found in every girl and boy's school; in fact, the girls require it more than the boys, as they are naturally more delicate and get less exercise. It is now considered vulgar, and a girl would be called a "tom-boy" were she to enjoy a holiday in using her muscles; yet such notions are most absurd, and, could they be corrected, we should find far fewer cases of spinal disease and chest affections than now exist, and the greater part of that lassitude and listlessness so frequent amongst ladies of the present day would be almost unknown; in fact these classes of exercise should form a part of education, and be carried on more or less during after life. We all know how

fatigued and exhausted the muscular system becomes after any unusual exercise, as, for instance, the first day's cricket, or tennis, the first day's shooting or long-distance walking; yet after a few games or days we find no effect from it, except that the same actions are performed with great facility, and invigoration of the body is the result. By judicious gymnastic exercise the chest is expanded, the muscles become more powerful and are enlarged, and health and strength is found where, in many instances, disease and weakness would have manifested themselves.

These exercises, practised day after day, and month after month, cautiously and moderately, do far more good than the immoderate exercise of boat-racing, running, &c.; for in many instances I have seen evil results from such exertions, and they are to be studiously avoided.

The time best adapted for these exercises is when the system is not in any way depressed by fatigue or want of nourishment; but they must not be indulged in during the process of digestion. As I have before stated, the robust and strong can take exercise before breakfast, but the majority of persons will find it cause faintness and languor throughout the day; it is therefore better to wait till two or three hours after breakfast.

Depend upon it, that out-of-door exercise and sport can do far more for a person than he imagines. You get away from the cankering cares of your profession or business, and your mind is drawn into another channel. I have found by experience that it is not the long holiday which does most good, but rather the continued one or two days a week shooting or fishing. Everyone should endeavour to take this, for the time imagined to be lost is far more than regained by the impetus and vigour it gives to prosecute our studies or work during the rest of the week.

One very common mistake is made by many persons who get only an occasional holiday, and that is overtaxing the muscular system by long walks. Instead of healthy invigoration, debility is the result, and the holiday, consequently, not only lost, but harmful.

The exercise of infants is also as important as that of adults; every freedom should be given to their limbs, and they should be allowed to roll about on a blanket on the floor, and as they get older no exercise dictated by common sense should be stopped.

From what I have stated it will be evident to the reader that continual rest is enervating to the system, and, unfortunately, a great number of plithisical patients indulge in it, and many take to their beds long before there is the least occasion to do so. I invariably delay confinement to the house as long as possible, but more particularly to bed;

for almost immediately after a patient takes to bed the face becomes pale, weakness is complained of, emaciation proceeds more rapidly, and the disease frequently manifests itself in other organs of the body; therefore every practical expedient must be adopted to keep the patient out of bed.

I have dwelt thus fully on *exercise*, as it is of such great importance in the preventive treatment of consumption.

(*To be continued.*)

### TYPHOID EPIDEMICS.

As records of careful, painstaking inquiry, the reports submitted to the Local Government Board from time to time by various medical officers of health on the subject of outbreak of disease are instructive in the highest degree. We are, moreover, indebted to no inconsiderable extent to these reports for our present exactitude of knowledge respecting the natural history of many specific fevers, the ingenuity with which the causes leading to epidemics at different times have been sought for being one of the most important agencies for influencing universal knowledge of disease. In many instances, the indefatigable persistence shown in ferreting out and following up a seeming clue to causation have led to most important discoveries; and so much do we now admittedly owe to this method of investigation, that it has obtained recognition as a legitimate—and even as the only reliable—mode of searching after such details of information as shall effectively determine the etiological relations of particular outbreaks.

Two reports of this description have been recently issued, which exactly illustrate both the method and the value of the inquisitorial system of investigation in cases of infectious epidemics. One of these is by Dr. Parsons, and deals with an outbreak of typhoid fever at Clapham; the other, by Dr. Barry, is concerned with a similar epidemic at Bangor. In Dr. Parson's inquiry the starting point was taken at the milk supply, the significant fact being early apparent that all the affected houses drew their supply of milk from the same dairyman. The report then goes on to detail the direction of further observations, and affords an admirable example of the care and labour which are now bestowed on such works. From the dairy at Clapham the inquiry was extended to the farm in Devonshire, whence the milk sold by the suburban dealer was daily forwarded, and every circumstance connected with the administration of the farm implicated most minutely examined into. The result showed that in general arrangements and cleanliness these were fairly satisfactory, and offered no material danger for comment. The water-supply, however, on one of the two farms concerned, was found, on analysis

by Dr. Dupré, to be entirely unfitted for drinking or culinary purposes; but, notwithstanding, half the milk daily forwarded to London was placed in tin pails in a trough filled with this water, to cool, and by pumping further supplies in during the time the milk remained, it was more than possible that the latter should be occasionally contaminated. Moreover, cases of fever had occurred in the village of Musbury, where the farm referred to is situated, as lately as March last, and the conformation of the ground admits the percolation of sewage from the dwellings of the villagers to the farm water-supply, only 150 yards distant.

This array of facts, when once collected and compared, is amply sufficient to offer an explanation of the occurrence of a typhoid epidemic among the customers of the Clapham milk-purveyor; but one other circumstance, at once curious and significant, deserves to be mentioned, both on account of its intrinsic importance in its bearing on the inquiry, and also because it exhibits the extreme carelessness with which this has been conducted. The dairyman referred to, in addition to the milk obtained from the Devonshire farms, sold also a certain smaller quantity each day, derived from cows kept in his own establishment, and for which, as "nursery" milk, a somewhat higher price was charged. In no single instance was there a case of fever reported among the families supplied with this milk alone; the affection was noticed chiefly among large consumers of the fluid, and especially in those cases where it seemed to have been imbibed *au naturel*.

Not so many years ago it would have been deemed an absurdity to suggest any such demonstration of connection between cause and effect as the narrative just outlined indicates; and it is by no means one of the least of the triumphs of modern medicine that the "craze," as some choose to term it, for preventive measures is fast perfecting a science that will serve as a basis, at least, for future productive researches in the realms of etiology.

The Bangor outbreak was traceable to other causes than those conducing to the epidemic at Clapham; and in a lengthy report Dr. Barry exhaustively details the measures pursued with a view to tracking and counteracting the influences at work. We cannot follow the history of these proceedings now; suffice it to say that the spread of the fever was incontestably shown to be due to drainage and other building defects, and that amelioration of the distress occasioned by it followed the adoption of appropriate prevention. The value of the report, apart from its scientific interest, is extremely great; for it offers an instance of the patient, consecutive inquiries of which so many are being constantly conducted at present in the interests of the public health.

It is with typhoid and scarlet fevers more than with any other zymotic that we have derived important information from the intelligent labours of health officers; and that still greater stores of information will be forthcoming as a result of their work we cannot venture to doubt. The scanty knowledge that guides all preventive measures needs to be improved and increased by every available means, and it is by such agencies as those alluded to above that the surest advance in this direction is to be anticipated.—*Med. Press Circ.*

**ALCOHOL IN THE ST. PANCRAS WORKHOUSE.**—Dr. Dunlop, medical officer to the St. Pancras Workhouse, has had his attention called by a resolution of the guardians "to the present large consumption of beer, wine, and spirits in the workhouse, and to the question whether so large a consumption is necessary for medical purposes." He replies in an able letter, which is at present under the consideration of the Board. There is no doubt he takes a large view of the medical uses of alcohol—probably rather a larger one than is at present generally held. His therapeutical estimate of alcohol reminds us more of what we used to read in Dr. Todd's lectures twenty years ago than of the guarded and stinted admissions as to its occasional indispensableness which characterise the expression of present medical doctrine. He admits the deplorable mischief done by alcohol and says, "Alcoholic liquors are a most prolific source of pauperism, disease, and crime"; but with what seems a sort of homœopathic tendency, he thinks that a little alcohol is good for almost all sorts and conditions of paupers. It affords the greatest relief to the aged suffering from chronic disease; it is invaluable in lying-in wards; it is of the greatest service in the natural and artificial feeding of the insane; it is equally useful in the collapsed and in the convalescent stages of acute disease, especially pneumonia; in the case of scrofulous children port wine is a valuable agent; and in the diarrhoea and sickness of such children iced brandy will often avail when nothing else will. "As regards the prescription of porter, I look upon it both as an article of diet and as a fillip to the appetites of the aged sick and poor, to whom it is alone prescribed." This is undoubtedly hard doctrine for teetotal guardians. We will admit that it implies an estimate of the use of alcohol at all ages of pauperism, which—in a workhouse infirmary, where any reasonable nourishment can be obtained—we think open to criticism alike from the scientific, the moral, and the rate-paying point of view. But Dr. Dunlop's letter is that of an earnest and intelligent medical officer, and the guardians will find it best to do no more

than raise the question to such an officer and leave him to grapple with it as he can.—*Lancet.*

**THE IMPROVED SANITATION OF CANNES.**—Intending visitors to Cannes will be glad to know that, at the present time, both town and neighbourhood are quite healthy, and there have been no cases of the typhoid fever which was slightly prevalent there last winter since July last. Nevertheless, the Mayor and Town Council of Cannes have voted a large sum of money for the carrying out of the suggestions and advice which the medical men of Cannes, in consultation, had laid down, so as to avoid the probability of any recurrence of epidemic disease due to imperfect drainage and water-supply. A Commission d'Hygiène and Bureau d'Hygiène Publique have been instituted, under whose auspices 584 hotels and villas have been inspected; and, with the exception of five recalcitrant householders, all the other proprietors have corrected various defects and errors in drainage, cleansing, and ventilation which were pointed out to them by the constituted authorities. New sewers and main-drains have been, and are, in course of construction in the frequented thoroughfares of Cannes. The present system is being adapted, as far as possible, to approved sanitary requirements. Another excellent reform in Cannes, is the sanitary inspection of dairies now carried out under the new régime. Visitors to Cannes are much in the habit of walking out to the dairies in the neighbourhood to drink the excellent milk for which they are famous. It is, therefore, obviously of the highest importance that the drainage and water-supply of these establishments should be of such a character as to preclude the possibility of the propagation of zymotic disease by the drinking of the milk to be obtained at them.—*British Medical Journal.*

**MENTAL AND PHYSICAL CHARACTERISTICS OF CONVICTS.**—The recently published report of the Commissioners of Prisons contains some interesting remarks by the Medical Inspector, Dr. R. M. Gover, in reference to the mental and physical characteristics of prisoners of the habitual criminal class. Dr. Gover says that an examination of the figures of the census made last year of habitual criminals confined in the local prisons in England and Wales show that, out of 21,917 prisoners of this class, as many as 18,519 (or 84 per cent.) are returned by the medical officers as fit to perform hard labour. This, as might be expected, is larger than the percentage of convicts in similar physical condition, and it may be partly accounted for by the fact that those of the inmates of the local prisons who are habitual criminals are younger in years and in crime than the convicts. Of the former, 51 per cent. are from fifteen to thirty years of age; of the latter, only 27 per cent. range between those ages. But, comparatively young as are the 21,917

habitual criminals enumerated in the census of local prisons, they are known to have incurred 86,682 previous convictions, or nearly four previous convictions per head, nearly every conviction involving a sentence of imprisonment. Notwithstanding, however, that they have passed through this amount of imprisonment, as many as four-fifths, as already stated, are found to be fit for hard labour. When allowance is made for the fact that a large proportion of those who are unfit for hard labour are in that condition on reception into prisons, it would certainly appear that residence in prison is favourable to the maintenance of health and strength. These facts will doubtless be reassuring to those philanthropists, who are inclined to the opinion that the discipline and management of the prisons are in some respects unduly severe. It is necessary to bear in mind that, for every previous conviction known to the police and prison authorities, there is probably at least one that is not known. Indeed, nothing is unfortunately more certain than that large numbers of criminals pass a great portion of their lives in prisons; yet most of them are in excellent health, and fit for hard labour. The greater the proportion of habitual criminals among the inmates of the prisons, the better would it seem to be not only for the public, but for the criminals themselves. The number returned as fit for light labour is 3,122, leaving only 276, or 1.25 per cent., who are found to be unfit for any labour. The great majority of these are in the prison hospitals. Many are admitted into hospital on reception into the prisons, and are never subjected to any discipline other than that involved in being under lock and key. Perhaps one of the most remarkable features in the census is the very small number returned as scrofulous. The number given is eighty-five, or only 3.8 per 1,000. The result of the two censuses of the habitual criminals cannot, Dr. Gover thinks, fail to give satisfaction to the public as to the general management of the prisons.—*British Medical Journal*.

**THE CONTAGIOUS DISEASES ACTS.**—Two memorials have recently been addressed to the Admiralty, from Portsmouth and Plymouth, giving the opinion of clergymen, medical practitioners, and other influential residents in those towns as to the working and result of the Contagious Diseases Act. The memorial from Portsmouth says:—"We consider that the Acts have been most judiciously and considerably carried out by those to whom their administration has been entrusted, and that no just cause of complaint can be brought against them. We feel assured that the operation of the Acts has been most beneficial in lessening the number of brothels and prostitutes, in improving the appearance and behaviour of the women, and so freeing our town from the sad scenes of evil and

disorder with which we were once only too familiar; in checking the progress, as well as mitigating the virulence of disease; and, most especially, in affording the women an opportunity of being reclaimed from their sinful lives." That from Plymouth says:—"We are decidedly of opinion that, both from a physical and moral point of view, their action has been most beneficial. We believe that, although, if extended, their usefulness would soon be greatly increased and more universally recognised, they have been the means of relieving a great amount of physical suffering, while they have opened the road to reformation to many fallen women, who, were it not for the existence of these Acts, would never have had an opportunity of returning to a respectable course of life." The Mayors and Recorders of Portsmouth and Plymouth sign.—*Medical Press Circular*.

**COUNTRY DOCTORS.**—Our contemporary the *Globe* had recently a pleasant gossiping article on "Country Doctors," wherein we find an attempt made to define the difference between country practice and town practice, the former being characterised as a "rough-and-ready" treatment of disease, while the latter is compared to the work of "the nineteenth century strategist," who "has instruments and theories, inventions and methods, of which the other [the country practitioner] knows neither the use nor often the existence." "The city doctor," we are told, "naturally devotes himself to the complications and the casuistries of disease. The country doctor brushes all these away, and fights with the few enemies he knows, and with whom he is accustomed to deal." Of course it is recognised that this description applies only to the few country doctors of the "old type" now remaining. Railways and telegraphs and the periodical literature of the profession have almost improved the old type of practitioner off the face of the earth. In the broad lines of his reasoning our contemporary is right, and he argues the matter in a genial and appreciative spirit. Differences between the old way and the new do exist in medicine as in everything else; and it is well that, like old landmarks which are being removed in the course of modern improvements, these differences should be chronicled. By-and-by it will, probably, be found that in this, as in everything else, history repeats itself.—*British Medical Journal*.

**COURT ST. ETIENNE WATERS.**—In our notice of these excellent arsenical waters in our last month's issue, we stated that the London agency was in Bush Lane, Cannon Street, but we are informed by the proprietor, Mr. E. Watteen, of the Royal Exchange, Middlesbrough, that his London agency has been abolished and that the waters can only be obtained from himself, as sole agent for these islands. We repeat what we said last month that



in skin diseases, scrofula, or nervous ailments, these waters will be found most beneficial; and having tried them ourselves in those diseases, and found them to be genuine and undoubtedly of high value, we feel confidence in recommending them to the public.

**INFANTILE MORTALITY, SOME OF ITS PREVENTIBLE CAUSES.**—At the recent Sanitary Institute Congress, held at Newcastle-on-Tyne, Mr. A. E. Harris, Medical Officer for Health for Sunderland, read a paper on this subject, in which he said, "that some people said, 'children must die, you can't prevent them.' Many, he knew, must; it was impossible, or nearly so, to preserve the lives of children of weakly or diseased parents. But, let them recollect the lesson to be derived from the village of Harbottle, in the county of Northumberland, where, at all events, up to 1877—and he had no later record—no child had died for twenty years, and where, among the families of a farmer and his three shepherds, having between them forty-seven children, no child had died for thirty years. Such facts as these irresistibly pointed to the conclusion that much of the infantile mortality was an unnecessary evil. In the decade 1870–1880, there died no less than 1,278,326 infants under twelve months old, or, expressing it graphically, about as many infants perished as there were inhabitants in Northumberland, Cumberland, Durham, and Westmoreland. Among the causes of infantile mortality was that of improper clothing. The ordinary infantile dress was low in the neck, which tended to promote chest complaints: it was short in the arms, encouraging the chilling of the blood coursing through the arms; and it was long in the skirts, the better to cripple the legs and to prevent the free play that strengthens. Dresses like these were evils quite sufficient to be borne with patiently in the house, but when used out of doors they demanded the severest reprehension. When mothers were remonstrated with, the ever ready excuse was at hand, 'It makes the child hardy.' What medical man was there who could not tell of innumerable deaths, the origin of which began in making a child 'hardy'? A practice which certainly caused a large percentage of deaths was that of carrying infants to theatres or churches at night, more particularly in the winter season. On such occasions the infant breathed a heated atmosphere for hours, after which the delicate lungs were exposed to the great cold of the outside air. As regarded food, the great curse of infantile life was the ardent desire of parents and nurses to behold their infants taking solid food. They waited with considerable patience for a few weeks to pass, until at last they gave the infant bread, biscuits, or some specially prepared food, all of which might be very appropriate for a child which had cut some teeth, but which, given in its early days, was frequently the foundation of debility and death. One

great essential to infant life was pure air, whereas, however lightly clad infants might be while in arms, while in bed they were frequently so covered with clothes that the bed was converted into a sort of miniature black hole of Calcutta. It was a common thing for a mother to take her child to a house where there were children suffering from measles or scarlet fever, believing that her infant should take such diseases when they were young. Perhaps the most common case of all was that of whooping-cough. Parents who would not take their children near measles or small-pox, without hesitation subjected them to the whooping-cough. About 6,000 infants died from whooping-cough in the year, and many of the deaths were preventible. To remedy this state of matters, greater effort should be made to impart information, and addresses upon health subjects should be delivered, not in large halls, which, as a rule, were distant from the homes of the poor, but in small school-rooms adjacent to the places where they lived. In this matter women had a noble mission; women could do much with women. Our young population should be taught the rules of sanitation. In the Board schools they should be shown the value of cleanliness, the necessity of pure air, and the difference between wholesome and unwholesome food. School Boards had far better do that than spend money on the higher-class education that so many Boards seemed to aim at. The children should be taught that they were the guardians of their own bodies, and of all these little infants who would by and bye be entrusted to their care."—*San. Rec.*

**COLOUR-BLINDNESS.**—Dr. Kolbe, one of the several Russian physicians who have been engaged in a series of important researches in connection with colour-blindness, has published the results in *Vratch* (*The Physician*). Out of 10,828 railway servants examined, no fewer than 251 were colour-blind, and 82 proved to have an imperfect capacity for distinguishing colours. The average percentage of colour-blind would thus be 2·6; but the five doctors who have made these investigations arrived at very different percentages, namely, from 0·85 to 5 per cent. Three other doctors have made experiments on sailors and pupils in naval schools, and have found a much higher percentage—6·08 per cent. of colour-blind, and 8·5 with imperfect vision. Among scholars of naval schools, the percentage of colour-blind is, however, small—that is, 1·6 and 1·95. Women are subject to a far smaller extent to colour-blindness. Thus, Dr. Kolbe, who has experimented both on men and women, discovered among the men 2·5 per cent. of colour-blind, and 7·5 with imperfect vision; whilst among women he has discovered only 0·16 per cent. of colour-blind, and 8 per cent. with imperfect colour vision.—*Brit. Med. Journ.*

**THE ADULTERATION OF FRENCH WINES AND BRANDIES.**—The United States Consul, George Gibbons, of La Rochelle, France, in a recent official communication to the State Department, says: "Not a week passes but shipments of brandy are made, delivered in casks, all expenses paid, for less than the genuine article costs here. Merchants now deliberately *make* brandy of any year required, or of any quality." The mention of any particular year in an invoice, or on the label of a bottle, "may be regarded with perfect assurance as having no further meaning than that the article in question is presumed to have the taste or colour of the brandy produced in the year mentioned. The same remark may be made in reference to the popular designations, 'Cognac,' 'Fine Old Cognac,' and especially 'Fine Champagne.'" The greater part of the brandy of to-day, he says, is prepared from German alcohol, the importation of which has enormously increased since the failure of the white wine. Consul Glover, of Havre, at the same time reports that in his opinion, a very large percentage of the wines and liquors shipped from his district to the United States is either adulterated by the introduction of deleterious drugs or the mixing of a low grade of Spanish wines. It would be well to know if a similar state of things has been observed on this side.—*San. Rec.*

### REVIEWS.

*Cookery and Housekeeping*, by Mrs. Henry Reeve, third edition (Longmans, Green, & Co.).—This is a well got up and very useful manual of domestic economy for large and small families, containing eight coloured illustrations and numerous woodcuts. The authoress is well known as an authority on this subject, and the very fact of the book having arrived at a third edition is a sufficient recommendation for it. Having very carefully examined the work, we feel no hesitation in pronouncing it to be just what it professes to be, namely, a manual of domestic economy, the writer having evidently taken much pains to suggest economical as well as nutritive and palatable dishes, and to give many valuable hints on housekeeping.

*First Aid to the Injured*, by Dr. Friedrich Esmarch, Professor of Surgery at the University of Kiel, &c. Translated from the German by H.R.H. Princess Christian (Smith, Elder, & Co.).—This very handy little book consists of five lectures, delivered by the author in his "Samaritan School" at Kiel, and which have been very faithfully translated by Her Royal Highness, than whom few are more fitted for the task, she having herself personally attended the ladies' classes of the Windsor centre of the St. John's Ambulance Association, and thus thoroughly mastered her subject. We may remark that Dr. Esmarch's

book is well known and most highly appreciated in Germany, and therefore needs no words of commendation on our part; we are pleased to find a female member of the Queen's household embarking on such a useful and praiseworthy undertaking, and hope the example may not be lost on many other of our countrywomen, who ought to take as much interest in the practical alleviation of human suffering as the other sex, and are, undoubtedly, quite as capable of sustaining such a part if they will but make the venture. The cry of "Women's Rights" has been often sneered at, but we predict that the day is not far distant when the "weaker sex" will have every opportunity given them of showing us what they are worth; and we feel sure, with the example of Princess Christian before them, they will prove their mental equality with us.

### CORRESPONDENCE.

To the Editor of THE FAMILY DOCTOR.

SIR,—Permit me to ask through your columns if any of your readers can tell me what is the best kind of tricycle for one who is not very strong, and who wishes to ride one for the purpose of increasing his bodily vigour. I have the advantage of good and level roads and am a light weight; of course I do not wish to fly over the ground, but I should like one which would go tolerably quickly at the same time that I was improving my health. I am fearful of getting hold of one that may produce fresh ailments instead of strengthening me.

Dear Sir, yours truly,  
A REGULAR READER.

SIR,—Kindly tell me what is the best sort of tricycle to begin with, and whether they are really useful in promoting health.

Your's truly,  
AJAX.

(We insert our correspondents' letters for our readers to reply to, as we do not profess to understand tricycle "points."—*Ed.*)

*Rev. E. A. Fawcett* is thanked for his communication.

*Engineer.*—Dr. Thomas Young was born in 1773, and was the first to announce the undulatory theory of light. John Dalton was born in 1766, and made a study of the force of steam, elasticity of vapours, and expansion of gases, and finally developed the atomic theory. We cannot reply to your next question, as we are not chemists.

*Toddy.*—We see no harm in it at all.

*R. A. P.*—Dr. Charles Darwin never said, that we are aware of, that he had no belief in the existence of a deity; but in divine revelation to man, we believe, he had no faith at all. The theory of evolution is generally accepted now by scientific and educated people.

*Lady.*—Try Hunyadi Janos water.

All letters and other communications for the Editor should be addressed to him at the Publishing Office, and will be considered as private communications for himself. If for publication, they should be written legibly, and on one side of the sheet only.

Communications relating to subscriptions and advertisements should be addressed to the Publishers.

No notice will be taken of communications unless authenticated by the name and address of the author, which need not necessarily be published.













